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BULLETIN
OF
WASHINGTON UNIVERSITY
ST. LOUIS



ANNOUNCEMENT
OF
THE DIVISION OF
UNIVERSITY EXTENSION

JUNE 1, 1927

Evening, Afternoon, and Saturday Courses

PUBLICATIONS OF WASHINGTON UNIVERSITY
SERIES II VOLUME XXV NUMBER XIII

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UNIVERSITY OF ILLINOIS

Washington University

Division of University Extension

In addition to its courses for regular students, Washington University offers the following extension courses and lectures for those who are unable to take advantage of its regular work:

I. Evening Courses.

a. At the University.

General and technical courses (including courses leading toward the A.B. or B.S. degrees). Courses in business and business law. Courses preparing for admission to the professional schools of Business and Public Administration, Law, Medicine, and Dentistry.

b. At East St. Louis, Ill.

Courses for Teachers and others.

II. Saturday and Afternoon Courses.

Courses for teachers and the general public (including courses for credit toward the A.B. degree).

III. Public Lectures.

Lectures of the Washington University Association in coöperation with the Division of University Extension. Admission by membership card, costing \$3.00 for the season. Season ticket will admit two persons to each of the lectures.

IV. Extension Lectures.

Lectures, either singly or in series, by members of the various faculties before such organizations as may wish to arrange for them.

Information concerning Extension Lectures will be sent upon request.

Address all communications regarding Extension Courses to the Director of the Division of University Extension, Washington University, St. Louis. Make all checks payable to Washington University.

CALENDAR FOR EXTENSION COURSES

1927-28

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September 19.	Monday.	Registration for all Extension Courses begins and continues daily 9 to 5 and 7:15 to 9:30, until September 28.
September 29.		Thursday classes begin.
September 30.		Friday classes begin.
October 1.		Saturday classes begin.
October 3.		Monday classes begin.
October 4.		Tuesday classes begin.
October 5.		Wednesday classes begin.
October 15.	Saturday.	Last day for registration for credit and final day for completing payments of fees.
November 24.	Thursday.	Thanksgiving Day, holiday.
December 22.	Thursday, to	

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January 3.	Tuesday, inclusive,	Christmas holidays.
January 16.	Monday.	Registration for second semester begins.
January 23.	Monday, to	January 27, Friday. First semester examinations.
January 27.	Friday.	Last day for re-registering for second semester without penalty of late fee.
January 30.	Monday.	Second semester classes begin.
February 15.	Wednesday.	Last day for registration for credit and final day for completing payments of fees.
February 22.	Wednesday.	Washington's Birthday, holiday.
April 6.	Friday, and	April 7, Saturday, Easter holidays.
May 14.	Monday, to	May 18, Friday, second semester examinations.
May 19.	Saturday.	Examinations in Saturday Courses.

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GENERAL INFORMATION

Adult Education has assumed an enormously increased importance in the last ten years. The time was when the majority of men and women took it for granted that when they left school to take up the serious responsibilities of life, whether as graduates of the grades at fourteen years, or of the high schools at eighteen years, or of the colleges at twenty-one or twenty-two years, their education was "finished." People of intelligence now realize that closed education means limited opportunities and closed careers and that to progress they must continue to learn either by their own efforts or by taking advantage of such opportunities as are offered by educational institutions.

It was with the object of aiding those who wish to continue their education beyond the regular school period that Washington University began in 1915 its series of courses, conducted under the general administration of the Division of University Extension, and offered at times convenient to those whose employment prevented them from taking advantage of the regular classes of the University. The fact that the enrolment of students in this Division has increased from 250 in 1915-16 to 3,278 in 1926-27 is the best indication of the rapidly increasing demand for opportunities for adult education in this city. How widespread has been the range of this demand has been shown by the fact that there were included in last year's enrolment the officers and employees of approximately 1,100 different firms.

These Extension Courses have attracted two distinct classes of students: those who desire to pursue some definite course of study, either with a view to advancement in their professions, or with the intention of qualifying themselves for future academic recognition; and those who, without reference to an academic degree, wish to avail themselves of the opportunity for self-improvement, either in making up deficiencies in their previous education or in pursuing branches of study in which they are specially interested.

A third group of students which the Division of University Extension did not originally have in mind, but which now forms a very considerable proportion of those taking Extension Courses, is made up of graduates of colleges and professional schools who

find in Extension Courses, and particularly in those offered at night, an opportunity to supplement their education by taking courses along other lines than those to which they devoted themselves during their college careers. A fourth class is made up of persons of leisure who wish to keep up their intellectual interests.

The Extension Courses are divided into two groups: (a) **Evening Courses**, designed for men and women employed during the day whose ambition it is to make themselves more effective in their chosen lines of endeavor through a better grasp of the theoretical and technical problems involved in their daily work, or by the broadening of their general intelligence through educational channels. (b) **Saturday Courses**, intended primarily for teachers, and for people of leisure who wish to follow the progress of contemporary investigation and thought. These courses are given one hour a week on Saturday mornings for thirty weeks, beginning October 1. A few courses of similar nature are also listed in the late afternoon.

Many of these courses are co-ordinated with the regular work of the various departments of the University, and the credits received therefrom may be applied toward advanced standing or toward meeting the two-year college requirements prescribed for admission to the professional schools. For details see under *Credit*.

The University provides for teachers a wide range of courses carrying University credit which may, upon matriculation, be applied toward advanced standing in the College of Liberal Arts. In many school systems the successful passing of these courses is recognized as a basis for promotion. Courses given on Saturday mornings are primarily designed for teachers, but many of the Evening Courses also meet the needs of the teaching profession.

Graduates of colleges and professional schools form an increasingly large group of those availing themselves of Extension Courses, which offer them the opportunity of supplementing their previous college education along the special lines in which they happen to be employed. In recognition of the needs of this group the Division of University Extension has increased the number of advanced courses given in the evenings and in the late afternoons.

Graduate courses in Electrical Engineering are given for

graduate electrical engineers. For detailed descriptions of these courses, see page 57.

The attention of graduates who may desire to become candidates for advanced degrees is also called to the seminars and other late afternoon courses offered in the School of Graduate Studies. *For complete list of graduate studies, write the Registrar of the University for the catalogue of the Graduate School.*

Graduates of accredited high schools who intend later to enter the Schools of Commerce and Finance, Law, Medicine, and Dentistry, which require two years of work in the College of Liberal Arts as prerequisite to entrance (Dentistry requires but one), may meet all or part of these requirements in Extension Courses. Such students should confer with the Director for approval of the courses selected. For the order in which these courses should be taken, see page 21.

In the field of Business, the Extension Division offers three carefully planned curricula leading to certificates, as follows:

1. A three-year curriculum for the Certificate in Accounting, intended for those who desire to become expert accountants, or to take the State examinations for Certified Public Accountant. For details, see pages 24-26.
2. A three-year curriculum for the Certificate in Advertising. For details, see pages 26 and 27.
3. A three-year curriculum for the Certificate in Sales Management. For details, see page 27.

In addition to the above special curricula in Accounting, Advertising, and Sales Management, there is also offered a wide range of Evening Courses in Business, some of them parallel to the courses in Commerce and Finance, and others designed to meet the needs of those employed in special branches of business; as, for example, courses in Advertising, Business Administration, Business Law, Corporation Finance, Investment Securities, Income Taxes, Credit, Labor and Personnel Problems, Office Management, Real Estate, etc.

In Engineering and Architecture, in addition to a large number of individual courses planned with special reference to the needs of men already engaged in technical pursuits who desire a more thorough knowledge of the principles involved in their pro-

fession, the Extension Division offers a series of courses in related subjects leading to certificates, as follows:

1. A five-year curriculum for the Certificate in Structural Design. For details, see pages 29 and 30.
2. A four-year curriculum for the Certificate in Electrical Engineering. For details, see page 30.
3. A four-year curriculum for the Certificate in Machine Design. For details, see page 31.
4. A four-year curriculum for the Certificate in Architecture. See page 28.

Certain Evening Courses in Law are offered by members of the faculty of the School of Law. These courses do not lead to a degree in Law. They are planned to give a knowledge of certain branches of the law which relate to special subjects or professions, as in the courses in Business Law, Engineering and Architectural Law, Parliamentary Law, Wills, and Real Estate. Students who expect to enter the School of Law may do most of the preliminary college work in Evening Courses. For list of subjects, see page 22.

With a view to meeting the demand for vocational training for women, the Extension Division offers a special curriculum in Secretarial Studies and Office Organization, covering a period of two years and leading to a certificate. A full description of this curriculum will be found on page 28 of this catalogue.

The attention of women is also called to a series of courses in the field of Home Economics listed on page 70 of this catalogue.

Mature students wishing to prepare themselves to enter any of the schools of the University may apply certain courses in the Extension Division toward college entrance. Such students should consult with the Director as to the courses available. These courses are not open to immature students who should be in high school or preparatory school. See page 21.

Admission

Admission to courses in the Division of University Extension may be granted on the following conditions:

I. To students desiring credit:

1. Students who desire to pursue work leading to a degree in Washington University. These must be graduates of accredited

high schools and must be able to meet the requirements of admission prescribed by the school or college in which they ultimately intend to pursue work.

2. Students fully matriculated in other colleges or universities who wish to apply elsewhere the credit earned in these extension courses. These students, to assure themselves of credit, should consult with the Director.

3. Students who desire to pursue work for credit leading toward a certificate in one of the special curricula in the Division of University Extension. The requirements for admission to these curricula are stated in the various descriptions on pages 24 to 32.

II. To students not working for University credit:

1. Mature students whose chief interest lies outside the University and who wish to pursue courses for personal profit rather than for credit. For these students the sole conditions for admission are that they be twenty years of age and can satisfy the departments in which they wish to study that they are capable of carrying on the work with profit to themselves and without hindrance to the class.

2. Students who are at least eighteen years of age may, with the consent of the Director, be admitted to:

a. Preparatory courses.

b. Certain courses with the designation XII following the word credit.

Registration

Before registering for any course, the student who is taking his work for credit should consult the course description in the catalogue and assure himself that he has the necessary prerequisites. *Students in doubt about their courses should consult the Director of the Extension Division, Room 126, University Hall.*

The following is the procedure for registration:

1. The student should go in person to the office of the Division of University Extension, Room 126, University Hall, to obtain a registration blank.

2. If he wishes to become a candidate for a degree or a certificate he should at this time deposit in the office his credentials from the schools or colleges previously attended.

3. The student should then take his registration blank to the proper room and fill in his name and address, the list of courses he is authorized to pursue and such other information as is necessary for the student's permanent record.

4. The student should next present his card for final approval to the Assistant Director and then take it to the Treasurer's office for payment. On evenings other than the regular registration evenings, fees may be paid in the office of the Division of University Extension.

5. No student is regarded as registered or eligible for admission to class until his fees have been paid, either in part or in full.

6. A student, about whose qualifications there is reasonable doubt, may register provisionally, but before doing so he must have the written approval of the Director of the Division of University Extension and the statement on his registration card that the registration is provisional. No refund or release from the payment of all fees involved will be granted unless this procedure has been followed.

7. A student's receipt for tuition will serve as a temporary permit for attendance in class. Regular class cards are forwarded to the instructor by the office as quickly as practicable. In cases where the instructor has no class card the student is expected to refer this fact immediately to the Extension office so that any error may be rectified.

8. Students who have decided upon their courses are asked not to defer their registration until the dates announced below, but to register at once, in order to avoid congestion. In certain classes it will be necessary to close registration when the assigned quota has been reached. The regular time for registration for evening courses is as follows: First semester, Monday, September 19, to Wednesday, September 28, 7:15 to 9:30 p. m., including Saturday, September 24, 2 to 5 p. m. Second semester, Monday, January 16, to Friday, January 27, 7:15 to 9:30 p. m., including also Saturday, January 21, 2 to 5 p. m.

The office is also open during the day from 9 to 12:30 and from 2 to 5, excepting Saturday afternoons, throughout the year.

Visitors' Cards may be issued to students who have registered in one course in the Extension Division and desire to attend other courses before finally registering in them. With certain restric-

tions this privilege may also be extended to persons in doubt concerning their registration. See page 16, section 6.

Renewal of Registration

A student in the first semester who desires to continue his courses in the second semester must renew his registration not later than January 27, 1928, in the same manner as described in the preceding paragraphs. Students who delay their renewal of registration beyond this date must pay a late registration fee of \$2.

Fees

A. Regular fees for the Extension Division include:

1. A University fee of \$3 per semester.
2. The tuition fees, which will be found listed in the catalogue in the announcement of each course.
3. Laboratory deposits and fees, which will be found listed in the announcement of certain courses.

B. Other Fees:

1. A late registration fee of \$2 is charged students who postpone their renewal of registration in the second semester beyond January 27, 1928.
2. A certificate fee of \$2 will be charged students to whom certificates are awarded.
3. A special examination fee of \$2 is charged for each examination taken for the removal of conditions.

Of these fees the student is required to pay, when he registers, at least the University fee, laboratory deposit, if any, and not less than \$5 of the tuition fees for his courses. This last portion will be considered as a partial payment of the total amount of his tuition fees, provided *the remainder is paid on or before October 15, 1927, in the first semester, or February 15, 1928, in the second semester.*

The Treasurer's office, as well as that of the Division of University Extension, is open for the payment of fees from 9 to 12:30 and 2 to 5 daily, excepting Saturday afternoons. Both offices are also open from 7:15 to 9:30 p. m. during the two registration periods, while the office of the Division of University Extension is open from 7:15 to 8:15 p. m. during the entire school year.

Checks and money orders should be made payable to Washing-

ton University. If mailed, they should be addressed to the Director, Division of University Extension, Washington University.

Credit

Credit is assigned on the basis of one unit for each recitation hour or its equivalent in laboratory hours, for a semester of fifteen weeks, exclusive of examinations. The amount of credit given for each course and how it may be applied in the University is indicated in the announcement of the course. Roman numerals are used to designate the departments or divisions of the University in which the credit may be allowed, as follows:

I. College of Liberal Arts (including the Pre-Medical, Pre-Legal, Pre-Commerce and Pre-Dental curricula).

II. School of Engineering.

III. School of Architecture.

IV. School of Business and Public Administration.

VI. School of Graduate Studies.

XI. School of Fine Arts.

XII. This symbol is used to designate courses not now given in the other schools of the University. A statement of credit is given in semester hours for the information of other institutions in which such courses are recognized for a degree.

XIV. This symbol is used to designate courses leading toward a certificate in the Extension Division. For descriptions of these special curricula, see pages 24 to 32. Such courses also carry credit XII.

E. This symbol is used to designate entrance credit only. In the case of these courses the credit is indicated not in the form of semester hours, but of entrance units. For a list of such courses, see page 21.

Credit earned in Extension Courses may be applied toward the A.B. and B.S. degrees to the extent of 60 units. *A student desiring to apply credit thus earned toward advanced standing in any of the various schools of the University should confer with the proper dean as to the courses and credits which he may be thus allowed for his degree.*

The granting of credit in any course is contingent not only upon passing the final examination, but upon regular attendance as well.

The last day of registration for students desiring credit for the first semester is Saturday, October 15, and for the second semester, Wednesday, February 15, except by special permission of the Director and the instructor in the course. Absence will be counted from the first day of each semester.

Withdrawal

In case of withdrawal from any course students are requested to notify the office of the Division of University Extension at once, and in writing. Those who have paid only a part of their tuition and who fail to send such notification will be charged with the balance of their tuition and will not be permitted to re-register until the full amount is paid.

A refund of tuition fees is allowed students only in case of serious personal illness or in case of the student's removal to another city at the instance of the firm by which he is employed. In such cases a rebate of the unused portion of the tuition and laboratory fees will be made. Ten per cent of the total tuition fee will be charged for each week of the semester up to the date of receipt by the Extension Division of the student's written request for a refund. Allowance for class absences occurring prior to such request cannot be made. *The University fee is not refundable.*

Attendance

It is the student's duty not only to himself, but to the class in which he is registered, to attend regularly and punctually each class or laboratory exercise. No student whose absences in any semester exceed three regularly scheduled sessions of a course meeting one evening a week, or whose absences in a course meeting twice a week exceed four of the regular sessions, shall be admitted to the final examination in such course without special authorization from the Director. Such permission will be granted only if the reasons for the absences are clearly imperative and the standing of the student such as to warrant special consideration.

Privileges

Except for residence in the dormitories of the University, students in the Extension Division are accorded the same privileges in the Library and in the University buildings as are granted to other students. They are also eligible to membership in the

Washington University Union and are entitled to student rates at athletic games and other student activities. Single-tax tickets, costing \$5 per semester, which entitle students to admission to all games and to certain University activities, may be purchased in the office of the Division of University Extension. The Treasurer also has on sale, at a cost of \$3.50 per semester, tickets which cover admission to all athletic contests, but which include no further participation in student activities.

Students in the Extension Division registered for two or more courses in any semester are entitled to the privileges of the swimming pool and tennis courts under the same regulations as laid down by the University for other students. Those who desire these privileges must be certified to the Director of Physical Education by the Extension Division.

Examinations

In Evening and Afternoon courses two sets of examinations will be held during the year; one at the close of the first semester, January 23 to 27, 1928, and the other at the close of the second semester, May 14 to 18, 1928. In Saturday courses only one examination is held. This occurs at the close of the year at the last session of the class, namely, May 19, 1927.

Grading System. Students are graded for class work and examination on a numerical basis. The passing mark is 70. Grades between 60 and 69 are considered as conditions, and grades below 60 as failures. The designation "Inc" is used to indicate the fact that some portion of the student's work is incomplete, and the designation "Nx" to indicate that the student has completed all of his work satisfactorily, but has not taken the final examination. Students receiving a grade below 60 must repeat the course in order to obtain credit.

Students who at the end of the first semester receive a grade below 60 in any course may, with the consent of the instructor, continue in that course during the second semester, but without credit.

Special Examinations. Students whose grades fall between 60 and 69, inclusive, or who for a good reason failed to take the regular examination, may be permitted to take a deficiency examination. These examinations are held in April and September. Applications for the April examinations must be filed with the

Division of University Extension before March 1, and for the September examination before August 1. A fee of \$2 is charged for each special examination.

Courses Which Carry Credit for College Entrance

Students who wish to enter the College of Liberal Arts or desire to make up high school deficiencies* in order to obtain a certificate in any of the special curricula listed on page 24, may choose from the list given below such courses as may be necessary to cover their deficiencies. Such students should consult with the Assistant Director before beginning their work, as his approval and the approval of the Registrar are essential.

Students who take these courses must be at least eighteen years of age and regularly employed during the day.

The following courses carry entrance credit to the extent indicated:

N 20-A, B. Algebra I. . . $1\frac{1}{3}$ units	N 14-1, 2. German I. . . $1\frac{1}{3}$ units
N 20-C. Algebra II. . . $\frac{2}{3}$ unit	N 14-3, 4. German II. . . $1\frac{1}{3}$ units
N 20-F. Plane Geom. . . $\frac{2}{3}$ unit	N 15-1, 2. Greek. $1\frac{1}{3}$ units
N 20-D. Solid Geom. . . $\frac{2}{3}$ unit	N 19-1, 2. Latin I. $1\frac{1}{3}$ units
N 20-3. Trigonometry. . . $\frac{2}{3}$ unit	N 19-3, 4. Latin II. $1\frac{1}{3}$ units
N 11-A 1. English. $1\frac{1}{3}$ units	N 27-1, 2. Spanish I. . . $1\frac{1}{3}$ units
N 11-B 1, 2. English. . . $1\frac{1}{3}$ units	N 27-3, 4. Spanish II. . . $1\frac{1}{3}$ units
N 11-C 1, 2. English. . . $1\frac{1}{3}$ units	N 16-A, B. History. $1\frac{1}{3}$ units
N 12-1, 2. French I. . . $1\frac{1}{3}$ units	N 5-1, 2. Chemistry . . . 1 unit
N 12-3, 4. French II. . . $1\frac{1}{3}$ units	N 23-1, 2. Physics 1 unit

Courses for College Credit

Students who desire to take part of the prescribed work of the Freshman or Sophomore years of the College of Liberal Arts are directed to the following groupings: (A) courses prescribed for the A.B. degree; (B) courses prescribed for Pre-Commerce students; (C) courses prescribed for Pre-Legal students; and (D) courses prescribed for Pre-Medical students.

Other students may be admitted to any courses for college credit, provided they have the necessary prerequisites.

*At least ten units of entrance credit must be in English, Language, Science, Mathematics, and History, and not less than 2 units will be accepted in any language.

(A) Courses prescribed for the A.B. degree:

Freshman Year:

- | | |
|--|-------------------------------|
| 1. English, N 11-1, 2 | 4. A foreign language: |
| 2. Introduction to the Social Sciences, N 16-1, 2, 3 | French, N 12-1, 2, 3 |
| 3. One natural science: | German, N 14-1, 2, 3 |
| Botany, N 4-1, 2, 3, 4 | Greek, N 15-1, 2 |
| Chemistry, N 5-1, 2, 3, 4 | Latin, N 19-1, 2, 3 |
| Geology, N 13-1, 2, 3, 4 | Spanish, N 27-1, 2, 3, or |
| Physics, N 23-1, 2, 3, 4 | Italian, N 27-21, 22, 23 |
| Biology, N 29-1, 2, 3, 4 | 5. Mathematics, N 20-1, 3, 4; |
| | or Latin or Greek, as in 4 |

Sophomore Year:

- | | |
|---|--|
| 1. English, N 11-11, 12, 13 | History, N 16-2A, B, C |
| 2. A foreign language—the same language if begun in the Freshman year | Psychology, N 9-1, 2, and 2 additional units |
| 3. A second natural science of the group listed in the Freshman year | Political Science, N 25-1, 2, 3 |
| 4. A choice of | Sociology, N 26-1, 2 |
| Economics, N 7- 2A, B, C | 5. Elective, 6 units |

(B) Courses prescribed for Pre-Commerce students:

Freshman Year:

(1) English; (2) Introduction to Social Science; (3) Science or Mathematics as in the Freshman year of the A.B. course; (4) History, N 16-3A, B, C; and (5) one elective.

Sophomore Year:

(1) English; (2) Science or Mathematics or Psychology as listed in Sophomore year of the A.B. course; (3) Accounting, N 45-1, 2, 3, 4; (4) Economics, N 7-2A, B, C; and (5) one elective.

(C) Courses prescribed for Pre-Legal students:

Freshman Year:

Identical with the requirements for the A.B. degree, except that a student with less than two units of high school Latin must elect

this subject in place of a foreign language and then elect Mathematics and must continue Latin through the Sophomore year.

Sophomore Year:

(1) English; (2) A foreign language (the same language, if begun in the Freshman year); (3) Economics, Psychology, Political Science or Sociology as listed among the Sophomore subjects in the A.B. course; (4) History, N 16-2A, B, C; (5) Public Speaking, N 33-1, 2, 3.

(D) Courses prescribed for Pre-Medical students:

Pre-Medical students are required to complete three years in the College before qualifying for admission to the School of Medicine. These students follow the same curriculum as outlined for the A.B. degree. In addition, Chemistry, N 5-11, 12, 13, 14 and additional units in French or German are recommended. Chemistry, N 5-1, 2, 3, 4, and Biology, N 29-3, 4, 5, 6 are prescribed. For more detailed information, students are referred to the announcements of the College of Liberal Arts and the School of Medicine.

Courses for Credit in the Schools of Engineering and Architecture

Freshman Year:

The Freshman year in the Schools of Engineering and Architecture includes at least the following courses, which are offered at night:

English I, N 11-1	General Engineering Drawing,
Mathematics 1 and 2, N 20-1,	N 6-1, 2, 5, 6
3, 4, 5, 6	Chemistry, N 5-1, 2, 3, 4, 11, 12
	Surveying, N 50-1, 2

Sophomore Year:

For credit in the Sophomore year the Extension Division offers the following equivalent courses:

Advanced Surveying, N 50-3,	Calculus, N 20-7, 8 (only 4
4 (C. E. only)	units offered)
History of Architecture, N 55-	Free-hand Drawing, N 55-15,
11, 12 (only 2 units offered)	16
English 2, N 11-3, 4	Shades and Shadows, N 55-1

For Architectural Engineering—Architectural Drawing, N 55-3, 4 (only 2 $\frac{2}{3}$ units offered)

Special Curriculum for Certificate in Accounting

General Statement. Because of the increasing need of scientifically kept accounts and a consequent increase in the demand for trained accountants, a special curriculum in accounting was established by this department in 1919. It is the purpose of this course to give the student that survey of business principles and processes which it is impossible for him to obtain in an accounting office. While practical experience is essential for speed and accuracy, it is our belief that an expert accountant must combine with his practical knowledge a thorough knowledge of the principles involved.

This curriculum is designed for those who desire to fill positions as expert accountants in private business houses and also for those who intend to become public accountants and who may, therefore, desire to take the state examination for the degree of Certified Public Accountant (C.P.A.). The University does not guarantee to this latter class of students that they will pass the state examinations. However, students who complete the course satisfactorily will find themselves well prepared to pass the examination in this, or in any other, state, provided they can also meet the other specific requirements set by the states for the degree.

Others who may be interested in these courses, but who are unable to take all the courses specified, may, with the permission of the Professor of Accounting, be admitted to certain courses in which they are especially interested.

Admission. Any graduate of a fully accredited four-year high school who gives evidence of his desire and ability to carry on his work in a creditable manner may be admitted to the course for the Certificate in Accounting. It is assumed that a candidate for the certificate will take not less than three, nor more than four, courses a year in accounting and business subjects for a period of three or four years. Each course is planned on the basis of a two-year class period each week for thirty weeks. In addition to the class hours, the student should expect to spend at least an equal number of hours in home study each week. At the conclusion of each course an examination covering the year's work is given. To qualify himself for the certificate the student must have completed all of his courses with an average grade of 77% for the entire period.

Students who have not completed their high school course may take such other courses in the Extension Division which in the

SCHEDULE OF CLASSES IN ACCOUNTING, ADVERTISING, SALES MANAGEMENT AND SECRETARIAL STUDIES

Yr.	Monday		Tuesday		Wednesday		Thursday		Friday	
	Accounting		Advertising		Sales Management		Secretarial			
1	Economics, N 7-2A. First Semester. Business Mathematics, N 20-12. Second Semester.	Business Administration, N 7-7. First Semester. Commercial English, N 11-D. Second Semester.	Accounting Principles, N 45-1, 2.	Accounting Principles, N 45-1, 2.						
2	Corporation Finance, N 7-15. First Semester. Income Taxes, N 45-20. Second Semester.	Applied Theory of Accounts, N 45-5, 6.	Business Law, N 7-41, 42.	Advanced General Accounting, N 45-7, 8.						
3	C. P. A. Review, N 45-15, 16.	Auditing, N 45-13, 14.	Factory Cost Accounting, N 45-11, 12.	Accounting Systems, N 45-9, 10.						
1	Principles of Advertising, N 46-1. First Semester. Advertising Campaigns, N 46-8. Second Semester.	English, N 11-1, 2.	Economic Geography, N 13-21, 22.	Applied Psychology, N 9-2. Second Semester.	English, N 11-1. First Semester.					
2	Economics, N 7-2A, B.	Direct Mail Advertising, N 46-11, 12.	Advertising Copy Writing, N 46-3, 4.	Accounting Principles, N 45-1, 2.						
3	Elective, First Semester Retail Advertising, N 46-9. Second Semester	Business Administration, N 7-7. First Semester. Economics, N 7-2C. Second Semester.	Marketing, N 7-21, 22.	Advanced English, N 11-3, 4.						
1	Principles of Salesmanship, N 47-1. First Semester. Sales Management, N 47-2. Second Semester.	English, N 11-1, 2.	Economic Geography, N 13-21, 22.	Applied Psychology, N 9-2. Second Semester.	English, N 11-1. First Semester.					
2	Advertising Principles, N 46-1. First Semester. Retail Advertising, N 46-9. Second Semester.	Business Administration, N 7-7. First Semester. Elective, Second Semester.	Public Speaking, N 33-1, 2.	Accounting Principles, N 45-1, 2.						
3	Economics, N 7-2A, B.	Office Management, N 7-54. First Semester. Economics, N 7-2C. Second Semester.	Marketing, N 7-21, 22.	Business Letters, N 11-E, F.						
1	Economics, N 7-2A, B.	English, N 11-1, 2.	Business Law, N 7-41, 42.	Applied Psychology, N 9-2. Second Semester.	English, N 11-1. First Semester.					
2	Expressive Speech, N 11-33, 34.	Office Management, N 7-54. First Semester. Office Technique, N 7-20. Second Semester.	Economic Geography, N 13-21, 22.	Advanced English, N 11-3, 4 or Business Letters, N 11-E, F.						

opinion of the Director may be accepted in lieu of the unfinished high school courses.

The admission requirements for students not candidates for the certificate are limited to their ability to show that they are properly qualified to handle the subjects elected.

Students taking the complete course in three years pay a tuition fee of \$52.00 each semester. The cost of the courses in the curriculum, if taken individually, is indicated in the description of the various courses. Students taking only a part of any one semester's courses are charged a fee of \$15.00 per course. The University fee of \$3.00 is payable each semester in addition to other charges.

Schedule of Courses for Certificate in Accounting

For schedule of courses to be taken in this curriculum and their proper sequence arranged according to years, see page 25.

Special Curriculum for Certificate in Advertising*

For several years past the Extension Division has been offering at night individual courses in the various fields of Advertising. These fields are so related with one another and with business in general that it has seemed best to the Administrative Board to offer a special three-year curriculum in Advertising and related subjects, leading to a certificate on the successful completion of the course. It is not necessary that the course be completed in three years. Those who desire to do the work in a more leisurely manner are, of course, permitted to do so. This curriculum has been carefully planned to cover the essentials of English, Business Organization, Marketing, Accounting, as well as Advertising.

These courses in Advertising are offered under the joint auspices of the Extension Division and the Educational Committee of the Advertising Club of St. Louis and with the full co-operation of that committee.

Students who have graduated from a fully accredited high school may be admitted as candidates for this certificate. Students who have not graduated from an accredited high school, but who give evidence of their ability to carry on the work, may be admitted with the consent of the Director, but, before receiving the certificate, must have passed off the requirements for admission.

* Students who wish to qualify as commercial artists are referred to two courses listed under Art, Commercial Illustration and Commercial Design.

Students who do not wish to become candidates for the certificate may take individual courses in Advertising as heretofore, paying the fees listed for the courses on page 36. It will be to the advantage of such students to advise with the Director so as to avoid entering courses for which they have not had the proper prerequisites.

Tuition. Students who are candidates for the certificate and who take *all* the courses prescribed for each year of the three-year curriculum will be allowed a discount and may pay a blanket fee of \$47.00 each semester of the first year of the course and \$52.00 for each semester thereafter.

For courses to be taken in this curriculum and their proper sequence arranged according to years, see page 25.*

Special Curriculum for Certificate in Sales Management

For several years a large number of salesmen have been availing themselves of courses offered at night in the University. Many of these are looking forward to qualifying as sales managers. For the benefit of these students the University offers a coherent course in subjects related to sales management, leading to a certificate on the successful completion of the course.

Students who have graduated from a fully accredited high school may be admitted as candidates for this certificate. Students who have not graduated from an accredited high school, but who give evidence of their ability to carry on the work may be admitted with the consent of the Director, but, before receiving the certificate, must have passed off the requirements for admission.

Students who do not wish to become candidates for the certificate, but desire to take individual courses, may be admitted to such courses with the consent of the Director.

Students who are candidates for the certificate and who take *all* the courses prescribed for each year of the three-year curriculum will be allowed a discount and will be charged a flat fee of \$47.00 for the first semester of the first year and \$52.00 for each semester thereafter.

For courses to be taken in this curriculum and their proper sequence arranged according to years, see page 25.*

* Students in Advertising and Sales Management will be admitted to the lectures in N 45-1, 2 without being required to attend the laboratory.

Curriculum for Certificate in Secretarial Studies

For the benefit of those who wish to prepare themselves for the position of private secretary, the Division of University Extension offers a special curriculum leading to a certificate. This curriculum covers most of the subjects which will be needed in the work of taking care of the office of a business executive.

Any student who is a graduate of a fully accredited high school and who has a mastery of both shorthand and typewriting will be eligible for the certificate upon the successful completion of the curriculum as outlined on page 25. Shorthand and typewriting cannot be included in this curriculum, but students will be examined as to their proficiency in these subjects before the certificate is granted.

For courses to be taken in this curriculum and their proper sequence arranged according to years, see page 25.

Curriculum for Certificate in Architecture

For the benefit of those who desire to pursue the study of Architecture and who are unable to take advantage of the full curriculum offered in the regular day course in the University, the following Evening Courses, accompanied by full drafting-room work, are offered to properly qualified students. The work has been planned with special reference to the needs of men already engaged in architectural work, but the courses are open to anyone who may be interested.

A Certificate of Proficiency in Architecture is offered to those who complete the courses listed below. Subjects assigned to any one year may be taken in an earlier year provided the courses assigned to this year have already been completed. The curriculum is therefore more or less flexible.

A scholarship in Architecture in the School of Architecture, given by the Architectural Club, is open to students in the evening classes.

Tuition.—The fees for these courses are regulated by the Architectural Club, and announced in a special circular issued by the Club during September. Thus far the cost of instruction has not exceeded \$30.00 a year in addition to the University fee of \$3.00.

The Evening Courses in Architecture, with the exception of Engineering and Architectural Law, and Estimating and Contracting, will be given at the St. Louis Architectural Club. These

two courses are not covered by the \$30.00 tuition fee, and regular tuition is charged.

Schedule of Courses for Certificate in Architecture

First Year

Shades and Shadows
Perspective
Architectural Drawing

Second Year

Elementary Design
History of Architecture

Third Year

Intermediate Design
Freehand Drawing

Fourth Year

Advanced Design
Architectural Construction

Curriculum for Certificate in Structural Design

To serve the needs of young men (in the offices of engineers, contractors, and architects) who find that their advancement is limited by the fact that their training has not gone much beyond that of a high school graduate, and who may be so situated that they cannot take a full course in Civil Engineering, there is offered a course for a Certificate in Structural Design for those who are properly qualified. It is understood, of course, that those who are properly qualified may take individual courses without pursuing the full course, receiving credit for such courses as they successfully complete.

It is expected that a young man who diligently applies himself to the work involved in these courses will find himself qualified to cope successfully with the many questions of ordinary engineering design and construction that otherwise would be beyond his capabilities. More detailed information concerning the various courses is given on page 54.

It has been the experience of those who have taken any of the courses that a thorough groundwork in Mathematics, including Trigonometry, is essential for satisfactory results. In case students present Geometry and Algebra, but have not taken a course in Trigonometry, it will be possible for them to take Trigonometry coincident with Elementary Statics.

Exceptional men may, on approval, substitute the equivalent of prerequisite courses in special cases. In all courses there will be required considerable outside preparation of text-book and problem assignments. Proficiency in Mechanical Drafting is desirable in all courses, and will be required in courses N 50-23, 24 and N 50-33, 34.

Schedule of Courses for Certificate in Structural Design

First Year

Elementary Statics
Engineering Materials

Fourth Year

Principles of Reinforced
Concrete

Second Year

Principles of Steel Structures

Fifth Year

Design of Reinforced Con-
crete

Third Year

Design of Steel Structures

Specially capable students may be able to carry more than one course in Structural Engineering per year and thereby shorten the total length of time required.

Curriculum for Certificate in Electrical Engineering

To serve the needs of those who desire a broad theoretical knowledge of electrical engineering, but who are not so situated as to be able to take the complete electrical engineering course, the Division of University Extension offers a curriculum leading to a certificate in electrical engineering. Any student who is a graduate of a fully accredited high school may be admitted as a candidate for this certificate. It is understood that those who are properly qualified may take individual courses without pursuing the full number of courses offered, receiving credit for such work as they may complete, and may later be recommended for the certificate.

In addition to the engineering subjects the student must also take courses in algebra, trigonometry, mechanics, and calculus; or present satisfactory substitute work taken elsewhere. Students who have not had algebra are required to take N 20-A, B.

Schedule of Courses for Certificate in Electrical Engineering

First Year

Elements of Electrical Engineering	} First semester
Trigonometry	
Principles of Direct Current Machinery	} Second semester
Analytic Geometry	

Second Year

Theory of Alternating Currents
Calculus

Third Year

Alternating Current Machinery
Elementary Applied Mechanics

Fourth Year

Electrical Machine Design

Curriculum for Certificate in Machine Design

It is the aim of this curriculum to present in coherent succession the fundamentals of mathematics, mechanics, and kinematics, necessary for the machine designer. A certificate is given at the end of the course to those who have completed successfully all the subjects outlined in the curriculum given below. High school graduates who have completed the English and mathematics of the first year may omit that year and receive the certificate on the completion of the second, third, and fourth years' work. Students who have completed two years of high school and in addition complete the four-year curriculum will receive a certificate upon the completion of the entire course.

With the consent of the Director and the head of the Department of Mechanical Engineering, students who show evidence of having had elsewhere the equivalent of any of the courses of the first year may be relieved from the work of those courses. Students who are properly qualified, but who do not desire to complete the entire curriculum, may take individual courses with the consent of the Director.

Schedule of Courses for Certificate in Machine Design**FIRST YEAR***First Semester*

English, N 11-B1.....2 hours
Algebra, N 20-A.....2 hours
Geometry, N 20-F....2 hours

Second Semester

English, N 11-B2.....2 hours
Algebra, N 20-B.....2 hours
Trigonometry,
N 20, 3-A.....2 hours

SECOND YEAR*First Semester*

Mechanical Drafting..3 hours
Elementary Applied
Mechanics 2 hours

Second Semester

Mechanical Drafting..3 hours
Elementary Applied
Mechanics 2 hours

THIRD YEAR

First Semester

Kinematics 3 hours
 Descriptive Geometry..3 hours

Second Semester

Kinematics 3 hours
 Descriptive Geometry..3 hours

FOURTH YEAR

First Semester

Machine Design
 (Lecture) 2 hours
 Machine Design
 (Laboratory) 1½ hours

Second Semester

Machine Design
 (Lecture) 2 hours
 Machine Design
 (Laboratory) 1½ hours

The University Book Store

Text-books and other material may be purchased at the University Book Store, in Biology Hall. This store is open daily from 8:45 to 12:30 and from 1:00 to 4:30, and on Saturday from 8:45 to 12:00. It will also be open in the evening from 7:15 to 9:45 for ten days at the beginning of each semester of the Evening Courses. At other times it will be open in the evening from 7:00 to 8:00 p. m., except Saturdays, during the session.

Local Centers

A local center is maintained in East St. Louis, and others will be established elsewhere wherever a local organization such as a Board of Education, Teachers' Association or Club undertakes to offer year by year one or more of the Extension Courses of the University. In such courses the local center will provide for the expense of the work, for local advertising, for lecture hall, and, where lectures are illustrated, will provide the lantern and operator.

COURSES OF INSTRUCTION

In the following announcement of Extension Courses, Evening Courses, Afternoon Courses, and Saturday Courses are listed together. Evening Courses are designated by the letter "N" before the course number, e.g., N 45-1, 2. Afternoon Courses are designated by the letter "A" before the course number, e.g., A 32-5, 6. In the case of Evening Courses and Afternoon Courses the odd numbers after the dash indicate the courses of the first semester, the even numbers the courses of the second semester. Saturday Courses are designated by the letter "S" before the course number, e.g., S 11-1.

The University reserves to itself the right to withdraw courses or modify them, as may seem wise. No Extension Course will be given for less than ten regularly registered students. Where the minimum registration is higher, it is so stated in the announcement of the course.

The University also reserves the right to section courses too large to be handled in a single class. In sectioning classes the University will follow the procedure which seems most consistent with the requirements of effective teaching and the assignment to sections will be final.

Students should make sure that they have the necessary prerequisites for the courses which they elect for credit in the various schools. If in doubt they should consult with the Director.

The hours for Saturday Courses listed below are subject to modification. The final hour and room schedules for Saturday Courses will be posted on the bulletin board on the day of registration; copies may be obtained in the Extension Office.

The Roman numeral after the word "Credit" indicates the School of the University in which credit may be applied. I indicates the College of Liberal Arts; II, the School of Engineering; III, the School of Architecture; IV, the School of Business and Public Administration; XI, the School of Fine Arts. Courses designated by the number XII are not now given in the regular schools of the University. A statement of credit is given in semester hours for the information of other institutions in which such courses are recognized as leading toward a degree. Courses designated by the number XIV lead toward a certificate in one of the special curricula in the Extension Division. Courses designated by the letter "E" carry entrance credits only and the amount of credit given is in entrance units and not in semester hours.

ACCOUNTING

For a statement of the list of courses required for the Certificate in Accounting, see pages 24 to 26. The other courses in this special curriculum will be found listed under Business and Law. Students in Accounting should confer with Professor Krebs before registering.

Courses N 45-1, 2 or its equivalent are prerequisites for N 45-5, 6 and N 45-7, 8. These latter courses or their equivalent are prerequisites for N 45-9, 10 to N 45-15, 16, inclusive.

Students in the Extension Division who have completed some college courses for credit may be permitted to take Extension Courses in Accounting, Advertising, and Social Work for University credit, provided they secure in advance written approval of the Dean of the School of Business and Public Administration.

N 45-1, 2. Principles of Accounting. Mr. Engel and Mr. Gast
7:40-9:30 p. m. Wednesday and Thursday. Room 107, Duncker Hall. Both semesters. Credit XIV, 8 units. Tuition \$30.00 each semester.

The course opens with an insight into the needs and purposes of Accounting. Then follows the philosophy of Debit and Credit with its application to commercial enterprises; the opening of accounts; the closing of accounts; the functionalizing of the Journals and Ledgers and the introduction to the financial statements. In conclusion, Partnership and Corporation Accounting are considered. Lectures, problems, assigned readings, and formal laboratory practice.

N 45-1A. Principles of Accounting. Mr. Engel and Mr. Gast
7:40-9:30 p. m. Monday and Tuesday. Room 207, Duncker Hall. Second semester. Credit XIV, 4 units. Tuition \$30.00.

This course is the equivalent of the first semester of N 45-1, 2. Students entering this course in the second semester may take Applied Theory of Accounts the following year, and may complete the credit in Principles of Accounting by electing N 45-2 the second semester of the following year.

N 45-5, 6. Applied Theory of Accounts. Professor Krebs
7:40-9:30 p. m. Tuesday. Room 101, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

An advanced course in General Accounting to follow the Principles of Accounting. The course deals exhaustively with the analysis and interpretation of the financial statements, including adjusting, post closing, correcting and closing entries; the construction of working sheets, balance sheets, profit and loss statements, surplus sheets; the problems of valuation and technique of ledger accounts; the chart of accounts; and other problems of advanced accounting.

N 45-7, 8. Advanced General Accounting. Mr. Smith

7:40-9:30 p. m. Thursday. Room 106, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

An advanced course in General Accounting to be taken concurrently with Applied Theory of Accounts. The following topics are covered: depreciation, depletion, obsolescence, and inadequacy; statements of affairs and deficiency accounts; realization and liquidation statements; the handling of fire losses; estate accounting; consolidated statements; branch house accounting; and other problems of advanced accounting.

N 45-9, 10. Accounting Systems. Mr. Aumock

7:40-9:30 p. m. Thursday. Room 101, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$17.50 each semester.

A study of the peculiarities of accounting as found in a number of representative manufacturing and mercantile businesses. Among the topics considered for each business are the following: the books of record, the documents, the chart of accounts, the financial statements, and the factors which determine each.

N 45-11, 12. Factory Cost Accounting. Associate Professor Marsh

7:40-9:30 p. m. Wednesday. Room 101, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

The peculiarities of factory accounting; the general accounting system; the accounting cost system and the factory cost system in their relations to the financial records. Direct cost determination, overhead distribution and the various records incident to the classification of managerial statistics.

N 45-13, 14. Auditing. Mr. Good

7:40-9:30 p. m. Tuesday. Room 106, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

The duties, responsibilities, and qualifications of an auditor; the cash, balance sheet, and detailed audits; auditing particular types of business; the auditor's report and certificate; financial investigation.

N 45-15, 16. C. P. A. Review. Mr. Mayors

7:40-9:30 p. m. Monday. Room 106, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

The course is designed to familiarize the student with the types of examinations given by the accounting examining boards in the various states. The work of the course consists very largely in solving and discussing problems which have been given in the state examinations.

N 45-17. Retail Accounting.

Not given in 1927-28. May be offered in 1928-29 if requested by a sufficient number of students.

N 45-20. Income Taxes and Income Tax Accounting Problems.

Associate Professor Marsh

7:40-9:30 p. m. Monday. Room 101, Duncker Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

A brief survey of State and Federal Income Tax Legislation. Detailed study of Missouri and Federal Income Tax Laws and Regulations. Classi-

fication of income. Discussion of exemptions, credits, depreciation, amortization, invested capital, recent court decisions and Treasury rulings. Methods of determining gains and losses. The preparation of individual, corporation, partnership, and fiduciary returns. Instruction regarding the use of income tax forms, ownership certificates, corporation schedules, and claims for abatement, refund, and credit. Special emphasis will be placed upon the analysis and solution of practical problems.

N 45-22. Analysis of Financial Statements.

Mr. Boettler

7:40-9:30 p. m. Thursday. Room 105, Duncker Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

The principles to be followed in making a careful study of the balance sheet, the income statement, and other statements of industrial, public utility, and other corporations, with the intention of ascertaining their financial soundness, both from the point of view of the investor and short-term creditor. A desirable prerequisite for this course is N 7-31, Credit and Collections. Students who have not had this course should satisfy the instructor that they have a working knowledge of the problems of Credit.

N 11-D. Advanced Commercial English for Accountants.

Mr. McCarthy

7:40-9:30 p. m. Tuesday. Room 201, University Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

For detailed description of course, see under Business.

ADVERTISING

For a statement of the courses required for the Certificate in Advertising, see page 25.

Students in the Extension Division who have completed some college courses for credit may be permitted to take Extension Courses in Accounting, Advertising, and Social Work for University credit, provided they secure in advance written approval of the Dean of the School of Business and Public Administration.

N 46-1. Principles of Advertising.

Mr. Nix

7:40-9:30 p. m. Monday. Room 229, University Hall. First semester. Credit XIV, 2 units. Tuition \$15.00.

The course covers fundamental principles of all forms of advertising, stressing, in particular, layout construction, copy writing, classes of advertising, and planning of the campaign. Practical instruction for business executives, advertising managers, copywriters, and students.

N 46-8. Advertising Campaigns.

Mr. Nix

7:40-9:30 p. m. Monday. Room 229, University Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

This course embraces an intimate study of advertising research, advertising planning and preparation of campaigns. Four or five complete campaigns are worked out in detail by the students, covering every phase of local, sectional, and national advertising campaigns.

N 46-3, 4. Advertising Copy Writing.

Mr. Kane

7:40-9:30 p. m. Wednesday. Room 106, Duncker Hall.
Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

This is a practical course in advertising writing. Students are given every opportunity to prepare copy on various subjects for display advertisements, folders, booklets, circulars and letters, directed to consumers, dealers and jobbers. Naturally, the closely related subjects,—the illustration idea, layout, heading, type,—are studied and the students taught to apply their knowledge in actual practice.

N 7-21, 22. Principles of Marketing. Assistant Professor Sinclair

For detailed description of the course, see page 46.

N 46-11, 12. Direct Mail Advertising.

Mr. Vance

7:40-9:30 p. m. Tuesday. Room 208, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

When, where, and how to use direct advertising (letters, booklets, folders, broadsides, etc.) to increase sales volume. Theory and principles will be covered briefly. The course will be devoted largely to actual planning and preparing by the students of direct mail advertising of all forms, to fit typical business conditions. A course for both business men and students.

N 46-9. Retail Advertising.

Mr. Boyd

7:40-9:30 p. m. Monday. Room C, January Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

The course treats all phases of retail advertising with special emphasis on newspaper, direct mail, street car, outdoor advertising, and store displays. Course especially suited for the store owner and those entering the retail advertising field. Prerequisite, N 46-1 or N 46-3, or their equivalent.

ALGEBRA

(See under Mathematics.)

ARCHITECTURE

For the benefit of those who desire to pursue the study of Architecture and who are unable to take advantage of the full curriculum offered in the regular day course in the University, the following Evening Courses, accompanied by full drafting room work, are offered to properly qualified students. The work has been planned with special reference to the needs of men already engaged in architectural work, but the courses are open to anyone who may be interested.

A certificate in Architecture is offered to those who complete the courses listed below. For details, see page 28. For the order in which these courses, for certificate, may be taken in the four-year course, please refer to page 29.

The Evening Courses in Architecture, N 55-1 to N 55-15, 16, inclusive, will be given at the St. Louis Architectural Club, 514 Culver Way. Students should register at the Architectural Club.

The fees for these courses are \$30.00 for the year, payable in full in advance to the club, and admit a student to any or all of the following courses: Elementary or Advanced Design, History of Architecture, Shades and Shadows, Perspective, Descriptive Geometry. The fee for History of Architecture only is \$15.00 for the year, for Freehand Drawing \$15.00, for Construction \$20.00. A University fee of \$3.00 is charged all students in addition to the above mentioned fees.

The drafting room for courses in Architectural Drawing and Design will be open from 7:00 to 11:30 p. m. on the evenings designated.

For courses in Interior Decoration, see page 72. For the courses in Engineering and Architectural Law and in Estimating and Contracting see under Civil Engineering. These courses are given at the University. Students should register for them there and the tuition is announced in the description of the courses.

N 55-1. Shades and Shadows. Associate Professor Hill
7:30-8:30 p. m. Friday. First semester. Credit XIV, 1 unit.
This course comprises the geometrical construction of shades and shadows.

N 55-2. Perspective. Associate Professor Hill
7:30-8:30 p. m. Friday. Second semester. Credit XIV,
1 unit.

The delineation in perspective of buildings from the geometrical projections.

N 55-3, 4. Architectural Drawing. Associate Professor Hill
8:30-10:30 p. m. Wednesday and Friday. Four hours a week. Both semesters. Credit XIV, $2\frac{2}{3}$ units.

Instruction in the drawing of the elements of architecture.

N 55-5, 6. Elementary Design. Assistant Professor Valenti
8:00-10:30 p. m. Tuesday and Friday. Five hours a week. Both semesters. Credit XIV, $3\frac{1}{3}$ units.

Problems in simple designing.

N 55-7, 8. Intermediate Design. Assistant Professor Valenti
7:30-10:30 p. m. Tuesday and Friday. Six hours a week. Both semesters. Credit XIV, 4 units.

N 55-9, 10. Advanced Design. Assistant Professor Valenti
7:30-10:30 p. m. Tuesday and Friday. Seven hours a week.
Both semesters. Credit (ctf.) $4\frac{2}{3}$ units.

N 55-11, 12. History of Architecture. Associate Professor Hill
7:30-8:30 p. m. Wednesday. Both semesters. Credit XIV,
2 units.

A general survey of the styles of architecture from the earliest times to the present.

N 55-13, 14. Architectural Construction. Associate Professor Fitch
7:40-9:30 p. m. Tuesday. Both semesters. Credit XIV,
4 units.

Elementary survey of different methods of construction and of the principles upon which they are based, including especially Wood and Steel Construction. This course comprises a certain amount of assigned work consisting of problems and working drawings to be done outside of the regular class hours. Not given for less than 12 students.

N 55-15, 16. Free-hand Drawing. Mr. Schmidt
7:30-10:30 p. m. Monday. Both semesters. Credit XIV,
2 units.

ART

(For courses in Interior Decoration, see page 72.)

Students who intend ultimately to work toward the A.B. degree will please note that not more than 6 units of credit in Drawing will be accepted toward that degree.

Teachers desiring to qualify for teachers' certificate in art are advised to select their courses from among those listed below, from S 17-3 to N 17-19, 20, inclusive.

S 17-3. History of Painting. Mr. Wuerpel
10:30-12:00 noon. Saturday. Old Chapel. Both semesters.
Credit I, III, XI, 3 units. Tuition \$17.00.

Lectures and supplementary reading. The lectures will be illustrated by means of the stereopticon. Not given for less than fifteen students.

N 17-7. Free-hand Drawing (Elementary). Miss Sharpe
7:40-9:30 p. m. Thursday and Friday. Art School. First
semester. Credit I, III, XI, 2 units. Tuition \$25.00.

Drawing in charcoal from objects and plaster casts. No prerequisite.

N 17-8. Free-hand Drawing (Intermediate). Miss Sharpe
7:40-9:30 p. m. Thursday and Friday. Art School. Second
semester. Credit I, III, XI, 2 units. Tuition \$25.00.

This course is a continuation of N 17-7. Prerequisite, Elementary Free-hand Drawing.

N 17-9, 10. Free-hand Drawing (Advanced). Miss Sharpe
7:40-9:30 p. m. Thursday and Friday. Art School. Both semesters. Credit I, III, XI, 4 units. Tuition \$25.00 each semester.

Drawing in pencil from still life and plaster casts. Prerequisite, Intermediate Free-hand Drawing.

N 17-11, 12. Elementary Design. Miss Butler
7:40-9:30 p. m. Tuesday and Wednesday. Art School. Both semesters. Credit I, XI, XII, 2 units. Tuition \$25.00 each semester.

The principles of pure design; filling of spaces.

N 17-13, 14. Advanced Design. Miss Butler
7:40-9:30 p. m. Tuesday and Wednesday. Art School. Both semesters. Credit I, XI, XII, 2 units. Tuition \$25.00 each semester.

A course in design as applied to textiles, metals, furniture, ceramics, etc. Prerequisite, Elementary Design.

N 17-15, 16. Weaving. Miss Glaser
7:40-9:30 p. m. Thursday and Friday. Art School. Both semesters. Credit XI, XII, 2 units. Tuition \$25.00 each semester.

A course in hand weaving, threading, drafting, and designing.

N 17-17, 18. Bookbinding and Leather. Miss Kurz
7:40-9:30 p. m. Thursday and Friday. Art School. Both semesters. Credit XI, XII, 2 units. Tuition \$25.00 each semester.

Tooling, sewing, forwarding, lettering, and design in leather.

N 17-19, 20. Pottery. Miss French
7:40-9:30 p. m. Thursday and Friday. Art School. Both semesters. Credit XI, XII, 2 units. Tuition \$25.00 each semester.

The use of the wheel and the evolution of simple forms in clay. Firing is not included in this course.

N 17-21, 22. Life Class. Mr. Goetsch
7:40-9:30 p. m. Thursday and Friday. Art School. Both semesters. Credit III, XI, XII, 2 units. Tuition \$27.00 each semester.

Drawing from the nude model, with criticism of compositions. All representation is founded on drawing and culminates in the study of the nude. Here is found the expression of form, line, movement, character, and of proportion, and the student is required to observe these factors.

N 17-23, 24. Figure Sculpture.

Mr. Victor Holm

7:40-9:30 p. m. Tuesday and Wednesday. Art School. Both semesters. Credit XI, XII, 2 units. Tuition \$27.00 each semester.

Study of the human form, its various details and its application in decorative art. The course is strictly practical and will teach the building of armatures and pointing, enlarging and reducing from models. For decorative modelers and stone carvers and as a preparation for those who later will enter the regular day school.

N 17-25, 26. Ornamental Sculpture.

Mr. Victor Holm

7:40-9:30 p. m. Tuesday and Wednesday. Art School. Both semesters. Credit III, XI, XII, 2 units. Tuition \$27.00 each semester.

A course for those who wish to become modelers or carvers of ornament and decoration or for those who now serve as apprentices in these arts. It begins with practice in the simpler forms of ornament and leads into the study of those currently used in architectural decoration. The course also includes the work in modeling prescribed for students by the School of Architecture.

N 17-27, 28. Commercial Design.

Mr. Nicholson

7:40-9:30 p. m. Tuesday and Wednesday. Art School. Credit XI, XII, 2 units. Both semesters. Tuition \$27.00 each semester.

Lettering, layouts, and general advertising design, first semester. Posters and covers, second semester. Lectures on current advertising illustration, engraving processes, color and technique.

N 17-29, 30. Drawing for Illustration.

Mr. Carpenter

7:40-9:30 p. m. Tuesday and Wednesday. Art School. Credit XI, XII, 2 units. Both semesters. Tuition \$27.00 each semester.

This work includes drawing and painting from the draped figure, adaptation to illustration purposes, with criticism and direction in development of imaginative composition.

ASTRONOMY**N 3-1, 2. Descriptive Astronomy.**

Assistant Professor Young

7:40-9:30 p. m. Monday. Room 206, University Hall, and Observatory. Both semesters. Credit I, 4 units. Tuition \$15.00 each semester.

A descriptive statement of the methods, facts, and theories of Astronomy. A study of the structure of the solar system and sidereal universe and of the distribution of the stars. An historical and critical development of cosmogonic ideas and theories. Constellation study and observations. Prerequisite, Mathematics through plane trigonometry.

Cloudy nights will be devoted to lectures and discussion; clear nights to observation and discussion.

AVIATION

N 56-1, 2. Ground School Aviation Course.

Mr. Fisher

7:40-9:30 p. m. Friday. Room 203, University Hall. Both semesters. Credit II, 4 units. Tuition \$15.00 each semester.

The subjects covered will include Aviation History; Aviation Nomenclature; Airplane Construction; Airplane Rigging; Aircraft Instruments; Aircraft Engines; Ignition; Carburetion; Aerostatics; Theory of Flight; Aerology; Aerial Navigation; Modern American Aircraft Engine Development; Practical Flying Instructions; Taxiing Land Planes and Sea Planes. The formal instruction will be supplemented by field trips to Lambert and Scott fields and the Naval Reserve Armory.

BACTERIOLOGY

N 34-1. Bacteriology in Relation to Personal and Public Health.

Dr. Kendall

8:00 p. m. Friday. Room 100, Cupples Hall I. Credit XII. First semester. Tuition \$15.00.

A study of the part played by bacteria in relation to man and his surroundings, with special reference to foods, agriculture, industry, water, and sewage, and the bacteria friendly and hostile to man.

BIOLOGY

(See under Zoölogy)

BOTANY

N 4-1, 2. Principles of Plant Life. I. Associate Professor Farr

Not given in 1927-28. Will be offered in 1928-29.

N 4-3, 4. Principles of Plant Life. II.* Associate Professor Farr

7:30-10:15 p. m. Thursday. Room 205, Rebstock Hall. Both semesters. Credit I, 3 units. Tuition \$15.00 each semester.

Lecture and laboratory course covering representatives of the respective groups of lower and of flowering plants, including an introduction to plant classification and identification, and a study of the life histories of plants with special reference to the evolution of sexual reproduction.

This course will alternate with N 4-1, 2, Principles of Plant Life I, and these courses together will form the equivalent of Botany I in the College of Liberal Arts. Either course may be taken first.

BUSINESS

N 7-2A, B, C. Economics, Parts I, II, III.

Professors Stephens and Lippincott

For hours, detailed description and other information about these courses, see under Economics, page 50.

* Laboratory fee \$2.00.

N 7-7. Principles of Business Administration.

Assistant Professor Anderson

7:40-9:30 p. m. Tuesday. Room 207, Duncker Hall. First semester. Credit XIV, 2 units. Tuition \$15.00.

A preliminary survey of the pecuniary and acquisitive phases of management. Promotion and the organization of ownership; the nature and use of credit; accounting as an aid to executive control; methods of providing for risk; business forecasting; purchasing procedure; market analysis and the determination of sales policies.

N 7-14. Labor and Personnel Problems.

Professor Stephens

Not given in 1927-28.

N 53-1, 2. Industrial Engineering.

Professor Langsdorf

For hours, credit, and detailed description of course, see page 60.

N 54-1. Valuation Engineering.

Mr. Hetlage

For hours, credit, and detailed description of course, see page 60.

N 9-15. Industrial Psychology.

Mr. Bunch

For description of course, see page 85.

N 45-1, 2. Principles of Accounting.

Mr. Engel and Mr. Gast

For hours, credit, and detailed description of course, see Accounting.

N 45-5, 6. Applied Theory of Accounts.

Professor Krebs

For hours, credit, and detailed description of course, see Accounting.

N 45-7, 8. Advanced General Accounting.

Mr. Smith

For hours, credit, and detailed description of course, see Accounting.

N 45-9, 10. Accounting Systems.

Mr. Aumock

For hours, credit, and detailed description of course, see Accounting.

N 45-11, 12. Factory Cost Accounting.

Associate Professor Marsh

For hours, credit, and detailed description of course, see Accounting.

N 45-13, 14. Auditing.

Mr. Good

For hours, credit, and detailed description of course, see Accounting.

N 45-15, 16. C. P. A. Review.

Mr. Mayors

For hours, credit, and detailed description of course, see Accounting.

N 45-17. Retail Accounting.

For hours, credit, and detailed description of course, see Accounting.

N 45-20. Income Taxes.

Associate Professor Marsh

For hours, credit, and detailed description of course, see Accounting.

N 7-31. Credit and Collections.

Mr. Boettler

7:40-9:30 p. m. Thursday. Room 105, Duncker Hall. First semester. Credit XII, 2 units. Tuition \$15.00.

The nature of credit and an analysis of the credit system. The kinds of credit and a study of the basis upon which credit is extended. A discussion of collection methods, constructive credits, psychology of collections, and the organization of a Credit and Collection Department. N 45-22, Analysis of Financial Statements, is the logical continuation of this course.

N 45-22. Analysis of Financial Statements.

Mr. Boettler

7:40-9:30 p. m. Thursday. Room 105, Duncker Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

The principles to be followed in making a careful study of the balance sheet, the income statement, and other statements of industrial public utility and other corporations, with the intention of ascertaining their financial soundness, both from the point of view of the investor and the short-term creditor.

A desirable prerequisite for this course is N 7-31, Credit and Collections. Students who have not had this course should satisfy the instructor that they have a working knowledge of the problems of Credits.

The course on Appraisal and Valuation, listed on page 60, may well be taken in conjunction with this course.

N 7-15. Corporation Finance.

Associate Professor Cable

7:40-9:30 p. m. Monday. Room 207, Duncker Hall. First semester. Credit XIV, 2 units. Tuition \$15.00.

A detailed study of the financial policies of large corporations. The important topics that will be studied are as follows: promotion and capitalization; the issue and sale of securities; disposition of corporate income; manipulation of finances; insolvency and receivership; principles of reorganization; over-capitalization and the regulation of security issues.

N 7-16. Investment Securities.

Associate Professor Cable

7:40-9:30 p. m. Monday. Room 207, Duncker Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

The theory and mathematics of investment; the work of bond houses, underwriting syndicates, and stock exchanges in the distribution of securities; real estate bonds and mortgages; the bonds of federal, state, and local governments; the stocks and bonds of railroad, public utility, industrial, and mining companies; causes of the cycle of security prices and the value of business barometers.

N 7-34. Banking and Business.

Associate Professor Cable

7:40-9:30 p. m. Tuesday. Room 105, Duncker Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

This course is intended for students wishing a general view of the financial institutions of the modern business world. It includes a study of the principles of money, operation of commercial banks, functions of trust companies, savings banks, and bond houses, and an elementary consideration of the principles of foreign exchange. Some attention will be given to the problems of the business cycle as related to the larger questions of social control of business.

N 7-41. Business Law I.

Professor Cullen

7:40-9:30 p. m. Wednesday. Room B-2, January Hall.

First semester. Credit XIV, 2 units. Tuition \$15.00.

For description of this course, see under Law, page 74.

N 7-42. Business Law II.

Professor Cullen

7:40-9:30 p. m. Wednesday. Room B-2, January Hall.

Second semester. Credit XIV, 2 units. Tuition \$15.00.

For description of this course, see under Law, page 74.

N 7-67, 68. Real Estate: The Law of Real Estate Agency.

Professor Cullen

7:40-9:30 p. m. Thursday. Room B-2, January Hall. Both semesters. Credit XII, 2 units. Tuition \$15.00 each semester.

For description of this course, see under Law, page 75.

N 70-4. Wills and Administration.

Professor Rutledge

7:40-9:30 p. m. Monday. Room B, January Hall. Second

semester. Credit XII, 2 units. Tuition \$15.00.

For description of this course, see under Law, page 75.

N 7-24. Income Taxes—Practical Problems.

Mr. Rowe

7:40-9:30 p. m. Tuesday. Room 203, University Hall.

Seven lectures. January 10 to February 21, inclusive. No credit.

Tuition \$7.00.

A brief survey of State and Federal income tax legislation. Classification of income. Discussion of exemptions, deductions, credits, invested capital, and recent court decisions. Critical analysis and solution of practical problems. Preparation of individual and corporation returns. Not given for less than twenty students.

N. B.—While this class will begin at the time scheduled, the number of periods per week may be changed to two, thereby shortening the length of the course.

N 7-40. Library Methods as Applied to Business.

Mr. McMillen

7:40-9:30 p. m. Tuesday. Ridgley Library. First semester.

Eight weeks to November 22. Tuition \$8.00.

A survey of the literature to which men interested in business problems have most reason to refer for information. Special attention will be given to the publications of the United States Government in fields of statistics, commerce, and economics. Lectures and illustrative problems.

N 47-1. Principles of Salesmanship.

Mr. Dillon T. Stevens

7:40-9:30 p. m. Monday. Room 228, University Hall. First

semester. Credit XIV, 2 units. Tuition \$15.00.

The psychology of selling and the principles of personal salesmanship; analyzing the commodity; the customers; and the market. Construction of oral and written sales talks; study of various sales methods and campaigns.

How demand is created. Sales methods used in various types of manufacturing organizations, in wholesale houses, and in retail stores. The study of the art of salesmanship; motives behind buying; preparation of sales talks; selling appeals; characteristics of classes of buyers; methods of overcoming objections; the qualifications of salesmen in relation to manufacturing, wholesale and retail selling; study of cases illustrating practices and planning of campaigns in the various fields of selling.

N 47-2. Principles of Sales Management. Mr. Dillon T. Stevens
7:40-9:30 p. m. Monday. Room 228, University Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

This course will embody the study of the following topics: analysis of products for determining market channels and sales plans; development of sales plans; methods of remunerating salesmen; coordination of sales methods and advertising activities; "dealer help" plans; the use and value of sales reports; the sales promotion department. Discussions of special conditions and actual cases will be made the basis of the study.

N 7-21, 22. Principles of Marketing. Assistant Professor Sinclair
7:40-9:30 p. m. Wednesday. Room 105, Duncker Hall. Both semesters. Credit XIV, 4 units. Tuition \$15.00 each semester.

This course will deal with the several aspects of marketing manufactured goods. Marketing policies and their formulation will be considered. Market research, price policies, selection of distributors, correlation of salesmen and advertising with the other agencies of sales promotion, and recent developments in market administration will be discussed.

N 46-1. Principles of Advertising. Mr. Nix
For hours, credit, and detailed description of course, see Advertising.

N 46-3, 4. Advertising Copy Writing. Mr. Kane
For hours, credit, and detailed description of course, see Advertising.

N 46-8. Advertising Campaigns. Mr. Nix
For hours, credit, and detailed description of course, see Advertising.

N 46-9. Retail Advertising. Mr. Boyd
For hours, credit, and detailed description of course, see Advertising.

N 46-11, 12. Direct Mail Advertising. Mr. Vance
For hours, credit, and detailed description of course, see Advertising.

N 7-20. Office Technique and Practice. Mr. Lamke
7:40-9:30 p. m. Thursday. Room 220, University Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

This course is designed to cover, in a general way, the work of the private secretary to a business executive. Filing and indexing, office equipment and devices, the business letter, tabulation and graphical representation of data, and proofreading will be discussed. Primarily for candidates for Certificate in Secretarial Studies.

N 7-54. Office Management.

Mr. McCarthy

7:40-9:30 p. m. Tuesday. Room 201, University Hall. First semester. Credit XII, 2 units. Tuition \$15.00.

This course is intended, on the theoretical side, to acquaint the student with the fundamental considerations in this field of business administration and will present such phases as the planning and arrangement of the office, the selection and training of employes, suitable routine, the manager and his work, methods of supervision, office records, etc. On the practical side the course will aim to allot a portion of time to discussion of actual problems in office management, to reports on collateral reading, and to a discussion of office devices and appliances.

N 7-25, 26. Business Forecasting. Assistant Professor Anderson

7:40-9:30 p. m. Wednesday. Room 207, Duncker Hall. Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

Methods of forecasting general business conditions, including the volume of manufactures, the volume of wholesale trade, the market rate of interest, the Federal Reserve discount rate, and the price of stocks. Methods of forecasting conditions in particular industries, including the price of some of the leading agricultural commodities. Open only to students who are familiar with elementary economics and elementary algebra.

N 7-37, 38. Transportation, Rate and Traffic Problems.

Professor Stephens and Mr. Ryan

7:40-9:30 p. m. Monday. Room 105, Duncker Hall. Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

The study of the chief transportation agencies, the economic nature of the railway, kind and character of traffic carried, railway finance, capitalization and valuation, the Interstate Commerce Act and its amendments, railway rates, the influence of rates on industries, rate classifications and factors determining them, leading rate decisions of the Interstate Commerce Commission, and the Interstate Commerce Commission's regulations concerning compilation and publishing of tariffs.

N 20-12. Business Mathematics.

Associate Professor Rider

For detailed description, see under Mathematics.

N 13-21, 22. Principles of Economic Geography.

Associate Professor Thomas

For description, see under Geography.

N 11-B x, y. Business English.

Mr. Detjen

7:40-9:30 p. m. Monday or Tuesday. Room 100, University Hall. Both semesters. Credit XII, 4 units. Tuition \$12.50 each semester.

This course corresponds to English, N 11-B 1, 2, except that in composition emphasis will be placed upon the needs of business.

N 11-D. Commercial Correspondence for Accountants.

Mr. McCarthy

7:40-9:30 p. m. Tuesday. Room 201, University Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

This course is intended primarily for accountants. It will include a short review of composition, punctuation, spelling, capitals, italics, etc. This will

lead to the form and construction of letters and reports and will stress the fundamentals underlying routine letters, such as collection letters, credit letters, complaint letters, etc., explaining the principles upon which they are based. The student will be expected to apply these principles in regular assignments. Text: Hotchkiss & Kilduff on Business Correspondence.

N 11-E, F. Business Letters in Their Human Aspects.

Mr. McCarthy

7:40-9:30 p. m. Friday. Room 229, University Hall. Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

This course will be based upon a consideration of everyday business correspondence. It will take for granted a thorough knowledge of elementary principles and will be intended for those who desire a new and more vital viewpoint in Business Letters. It will include only the broader principles of letter building, derived from a consideration of the functional and human aspects of the business letter. Application of these principles by the student will be included. Prerequisite, high school English or its equivalent.

CHEMISTRY

N 5-1, 2. General Chemistry.

Professor McMaster

7:15-10:15 p. m. Wednesday. Busch Hall. Both semesters. Credit I, II, III, 3 units. Tuition \$15.00 each semester.*

Lecture and laboratory work upon the preparation and properties of the gases, common acid elements and their compounds. General laws and principles of inorganic chemistry. The chemistry of some of the most important organic compounds, particularly with reference to their application in daily life.

N 5-3, 4. General Chemistry of the Metals.

Assistant Professor Cuno

7:15-10:15 p. m. Wednesday. Busch Hall. Both semesters. Credit I, II, III, 3 units. Tuition \$15.00 each semester.*

This course is a continuation of N 5-1, 2, and consists of lectures and laboratory work upon the study of the metallic elements and their compounds. A brief account of the metallurgy of the common metals. Prerequisite, N 5-1, 2 or its equivalent.

N 5-11, 12. Qualitative Analysis.

Associate Professor Ball

Alternates with Quantitative Analysis. Will be given in 1928-29.

N 5-13, 14. Quantitative Analysis.

Associate Professor Ball

7:15-10:15 p. m. Wednesday. Busch Hall. Both semesters. Credit I, 3 units. Tuition \$15.00 each semester.

Lectures and laboratory work upon the use and care of the balance and measuring apparatus, acidimetry, alkalimetry, the theory of indicators, oxidation and reduction, gravimetric analysis and chemical calculations. Prerequisite, N 5-3, 4 or its equivalent.

* In addition a deposit of \$10.00 is required upon registration to cover materials and breakage. Unused balance is returned at the end of the course.

N 5-21, 22. Organic Chemistry. Assistant Professor Goldstein
7:40-9:30 p. m. Tuesday. Busch Hall. Both semesters.
Credit I, 4 units. Tuition \$15.00 each semester.

Lectures on the preparation, properties, and transformations of typical organic compounds of the aliphatic and aromatic series. Methods of large-scale production of common compounds of commercial and medicinal value. Also, a brief study of plant and animal metabolism. Prerequisite, N 5-3, 4, or its equivalent.

The following courses in Physical Chemistry are designed for two classes of students: (a) for those who have had little or no training in the subject and wish to take a comprehensive course covering two years; (b) for those who have had such a course and desire to keep abreast with the recent developments in some part of this rapidly changing field. The courses may be taken separately.

N 5-33. The Solution Laws, Ionization and Electrochemistry.
Associate Professor Ward
7:40-9:30 p. m. Tuesday. Busch Hall. First semester. Credit I, 2 units. Tuition \$15.00.

Lectures on the fundamental laws governing the behavior of gases, liquids, and solids. Special attention will be paid to ionization and the properties of aqueous solutions. The electrochemistry of such solutions will be studied and applied to the determination of hydrogen ion concentrations, oxidation and reduction potentials, and some of the more important technical electrochemical reactions. Special attention will be paid, also, to the demonstration of laboratory methods in physical chemistry. Prerequisite: Organic Chemistry and one year of College Physics.

N 5-34. Atomic Theory, Radiochemistry and Photochemistry.
Associate Professor Ward
7:40-9:30 p. m. Tuesday. Busch Hall. Second semester.
Credit I, 2 units. Tuition \$15.00.

Recent developments in the atomic theory will be treated and the conceptions reached will be applied to the periodic system and the problem of chemical action. The effect of light and radioactivity on chemical reactions will be studied; also the problem of the photosynthesis of carbohydrates, and the mechanism of the photographic process. Prerequisite: Organic Chemistry and one year of College Physics.

N 5-35. Colloid Chemistry. Associate Professor Ward
Alternates with N 5-33. Will be given in 1928-29.

N 5-36. The Phase Rule, Chemical Equilibrium and Reaction Velocity. Associate Professor Ward
Alternates with N 5-34. Will be given in 1928-29.

CIVIL ENGINEERING

(See under Engineering.)

CONSTRUCTION

(See under Architecture and Engineering.)

CREDIT

(See under Business.)

DRAFTING**N 6-1, 2. Mechanical Drafting.**

Professor Berger or Assistant Professor Tucker

7:15-10:15 p. m. Thursday. Room 105, Cupples Hall II.
Both semesters. Credit II, III, XIV, 3 units. Tuition \$15.00
each semester.

The course will include: the use and care of drawing instruments; free-hand lettering and titles; geometrical construction; principles of orthographic projection; principles of descriptive geometry; intersection of solids and development of surfaces; isometric and oblique projection; freehand drawing of mechanical parts; working drawing; tracing. French's text-book, *Mechanical Drafting*, will be used as a basis.

This course is the equivalent of General Engineering Drawing I. Prerequisite, for credit, Solid Geometry.

N 6-5, 6. Descriptive Geometry.

Associate Professor Bubb

7:15-10:15 p. m. Monday. Room 105, Cupples Hall II.
Both semesters. Credit II, III, XIV, 3 units. Tuition \$15.00
each semester.

Application of the methods of double orthographic projection to the representation of space objects and to the solution of problems of solid geometry.

This course is the equivalent of General Engineering Drawing II. Prerequisite, for college credit, Solid Geometry and N 6-1, 2, or its equivalent.

DRAMA

(See under English.)

DRAWING

(For courses in Drawing, see under Architecture, Art, and Interior Decoration.)

ECONOMICS**N 7-2A. Economics, Part I.***

Professor Lippincott

7:40-9:30 p. m. Monday. Room 107, Duncker Hall. First
semester. Credit I, XIV, 2 units. Tuition \$15.00.

The purpose of this course is to give the student a thorough knowledge of the principles of economics. The instructor will give attention partic-

* Parts I, II, and III combined meet the requirements for Economics 2 in the College of Liberal Arts.

ularly to a brief survey of the economic development of the United States and to a study of economic concepts; then will follow discussions of the economics of consumption, the laws of value, principles of price-making, monopoly and its effect upon social life; also a study of the questions of wages, interest, profit, and rent.

N 7-2A. Economics, Part I.* Assistant Professor Anderson

7:40-9:30 p. m. Thursday. Room 207, Duncker Hall. Second semester. Credit I, XIV, 2 units. Tuition \$15.00.

This is a repetition in the second semester of N 7-2A, given by Professor Lippincott in the first semester.

N 7-2B. Economics, Part II.* Professor Lippincott

7:40-9:30 p. m. Monday. Room 107, Duncker Hall. Second semester. Credit I, XIV, 2 units. Tuition \$15.00.

The course includes among other topics a study of the organization of business; advantages and disadvantages in conducting enterprises under various forms; relation of government to business; banking organization and development; money problems; credit and its problems; various practical money and banking problems; international trade; trade policy.

N 7-2C. Economics, Part III.* Professor Lippincott or Stephens

7:40-9:30 p. m. Tuesday. Room 107, Duncker Hall. Second semester. Credit I, 2 units. Tuition \$15.00.

This course includes a study of certain practical economic problems, such as labor relations, problems of agriculture, public revenue, systems of taxation, and public debt.

N 7-1A, 1B. Economic History of the United States.

Professor Lippincott

7:40-9:30 p. m. Wednesday. Room 208, Duncker Hall. Credit I, 4 units. Both semesters. Tuition \$15.00 each semester.

The purpose of this course is to develop the chief features in the economic history of the United States. Among the more important topics are discussions of natural resources and their relation to industry; public improvements; banking; tariff; industrial organization; relation of government to industry; growth of railways and development of the railway policy; the growth of manufacture and commerce. Students desiring to meet the requirements of economics in the Pre-Commerce curriculum must take one additional course in Industrial Organization.

EDUCATION

(For courses in Psychology, see page 83)

N 8-3, 4. An Introduction to Education and to Educational Psychology.

Assistant Professor Gribble

7:40-9:30 p. m. Monday. Room 203, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

This course is intended to introduce the student to the various fields of education and educational psychology. There will be a consideration of the

* Parts I, II, and III combined meet the requirements for Economics 2 in the College of Liberal Arts.

original tendencies of man pertinent to the educative processes; individual differences in intellect and character; the psychological factors of the school and extra-school environment; the psychological analysis of the objectives of education; and the psychological factors involved in the development of ideals, attitudes, and interests. The course is planned to acquaint the student with the scientific approach to the problems of education. Considerable attention will be given to measurement as a contributing factor to the scientific movement.

N 8-8. Principles of Secondary Education.

Associate Professor Long

7:40-9:30 p. m. Tuesday. Room 203, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

Aims and functions of secondary education in a democracy; the high school pupil; individual differences; the curriculum and the selection of subject matter; methods of teaching; cardinal principles of organization and management in so far as they affect the work of the teacher. Prerequisite, for credit, 6 hours of Education or Psychology.

N 8-9. The Junior High School.

Associate Professor Long

7:40-9:30 p. m. Tuesday. Ridgley Library. Second semester. Credit I, 2 units. Tuition \$12.50.

Designed to give high school teachers and principals a knowledge of junior high school organization. Topics: need for the junior high school; aims and functions; organization; teaching staff; programs of study; methods of instruction; promotion and grouping according to ability; extra-curricular activities. Prerequisite, N 8-3, 4, or its equivalent.

N 8-11, 12. Principles of Teaching in the Secondary School.

Professor Wright

7:40-9:30 p. m. Wednesday. Room 203, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

This course is designed to provide a systematic training in principles of teaching. The following are some of the topics to be discussed: (1) an analysis of the teacher's task; (2) economy in class-room procedure; (3) problems involved in the use of the socialized recitation, supervised study, the Winnetka Plan, the Dalton Plan, the project method; (4) studying and motivating the pupil; (5) lesson plans, use of texts, assignments, questioning, etc., as means of more efficient instruction; (6) examinations, marking and promotion; (7) measuring the results of teaching. Prerequisites, N 8-3, 4 and N 8-8, or equivalent, and preferably teaching experience. Persons without experience in teaching should see the instructor for permission to enroll.

A 8-13, 14. Educational Psychology for Parents.

Dr. Lentz

1:30-3:30 p. m. Friday. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

This course will consider the findings of psychology relevant to education in its broader meaning and endeavor to apply these findings to the psychological problems of parenthood. Special consideration will be given to the scientific method, the original tendencies of children, the emotions, attitudes, coercion, interest, laws of learning, individual differences in mentality and character and their measurement, and the project method in character devel-

opment. Principles will be discussed in relation to actual problems presented by members of the class.

N 8-15, 16. Principles of Elementary Education Mr. Bracken

7:40-9:30 p. m. Thursday. Room 203, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

A discussion of the modern aims of education as related to the socialized school, modern curriculum development, problem and project methods in teaching, the appreciation lesson, motivated drill technique and visual aids in instruction. The influence of good equipment, training, salary, and satisfaction of the teaching corps; and child interests, purposes, and activities in achieving desirable and essential ends in education. Prerequisite, N 8-3, 4, or its equivalent.

N 8-20. Introduction to Library Work. Mr. McMillen

7:40-9:30 p. m. Tuesday. Ridgley Library. Second semester. Credit XII, 2 units. Tuition \$12.50.

Especially intended to meet the needs of school librarians and teachers who have the responsibility for the administration and operation of school libraries. The subjects to be taken up in the lectures and illustrative problems are cataloguing, classification and the more important general reference books. The high school library will be emphasized, although it will benefit all who are engaged in library work or who wish to learn some of the essentials of library economy.

ENGINEERING

For the benefit of those who desire to pursue the study of Engineering and who are unable to take advantage of the full curriculum offered in the regular day course at the University, the following courses of evening lectures, accompanied, wherever the subject-matter permits, by full laboratory work, are offered to properly qualified students. The work has been planned with special reference to the needs of men already engaged in technical pursuits who desire to obtain a more thorough knowledge of the principles involved in their professions. While intended primarily for technical students, these courses are open to anyone who may be interested.

Attention is called to the special curricula described on pages 29-31, leading to certificates in Structural Design, in Electrical Engineering, and in Machine Design. Attention is also called to certain new courses, or courses of timely interest, as follows: Telephone Transmission; Radio Communication; Heating and Ventilation; Industrial Engineering; Appraisal and Valuation; and courses for Road Engineers, under the auspices of the department of Civil Engineering and Chemistry.

CIVIL ENGINEERING

For a statement of the courses required for the Certificate in Structural Design, see pages 29 and 30. Students desiring to become candidates for this certificate should consult with Professor Sweetser before registering.

A 50-1, 2. Surveying. Assistant Professor Wheeler
Not offered in 1927-28; will be offered in 1928-29.

A 50-3. Railroad and Highway Surveying. Mr. Brust
2:00-5:00 p. m. Saturday. Room 215, Cupples Hall I. First semester. Credit XII, $1\frac{1}{2}$ units. Tuition \$15.00.

Classroom and field study in railroad and highway surveying, including simple, compound and spiraled curves, cross sections, computation of earthwork; also a study of the principles governing the economic location of railroads, construction methods, etc. Prerequisite, N 50-1, 2, or its equivalent.

A 50-4. Advanced Surveying. Mr. Brust
2:00-5:00 p. m. Saturday. Room 215, Cupples Hall I. Second semester. Credit XII, $1\frac{1}{2}$ units. Tuition \$15.00.

Classroom, and field study in topographic surveying and mapping by plane table and stadia, base line measurements, triangulation, astronomical observations, etc. Prerequisite, N 50-1, 2, or equivalent.

N 50-11. Elementary Statics.

Professor Sweetser, Assistant Professor Derby
7:30-9:30 p. m. Tuesday. Room 200, Cupples Hall I. Lectures and discussion, Professor Sweetser.

7:30-10:15 p. m. Thursday. Rooms 203-211, Cupples Hall I. Drafting Room Problems, Assistant Professor Derby.

First semester. Credit XIV, $3\frac{1}{2}$ units. Tuition \$27.00.

A study of that part of elementary mechanics (statics) which must serve as a foundation for all work in structural design. Definition and determination of forces, concurrent and non-concurrent; fundamental equations of equilibrium; principles of moments, and a study of levers; determination of reactions in beams and simple structures; bending moment diagrams and shear diagrams; study of elastic properties of materials; definition and use of modulus of elasticity; stress strain diagrams; theory of simple beams; etc. Elementary graphic statics.

This course is offered primarily as an introduction to the courses in structural design which follow. Prerequisite, a working knowledge of geometry, algebra, and trigonometry.

N 50-12. Engineering Materials and Inspection.

Professor Sweetser, Assistant Professor Wheeler
7:30-9:30 p. m. Tuesday. Room 200, Cupples Hall I. Lectures and discussion, Professor Sweetser.

7:30-10:15 p. m. Thursday. Engineering Laboratory, Assistant Professor Wheeler.

Second semester. Credit XIV, $3\frac{1}{2}$ units. Tuition \$27.00.

Class-room and laboratory study of the physical properties and mechanics of the more common engineering materials, including wood, iron, steel, brick, cement, and concrete; discussion of their proper uses as indicated by tests and as exemplified by standard specifications.

About half the time will be spent in the materials laboratory performing the more common tests. Prerequisite, Course N 50-11. Students who wish to fit themselves for inspectors only may be admitted to this course without credit in N 50-11, provided they can present evidence of satisfactory preparation or experience.

N 50-21, 22. Principles of Steel Structures.

Assistant Professor Derby

Not given in 1927-28; will be offered in 1928-29. Prerequisite, N 50-11, 12.

N 50-23, 24. Design of Steel Structures.

Assistant Professor Derby

7:30-10:15 p. m. Tuesday. Room 215, Cupples Hall I. Both semesters. Credit XIV, 3 units. Tuition \$17.50 each semester.

A continuation of N 50-21, 22. In this course practical problems in steel design of considerable scope will be worked out under supervision in the drafting room, including roof trusses, simple types of bridges, steel frame building, etc. A study of shop practice and detailed drawings. Prerequisite, N 50-21, 22.

N 50-31, 32. Principles of Reinforced Concrete.

Professor Sweetser

7:30-10:15 p. m. Monday. Room 215, Cupples Hall I. Both semesters. Credit XIV, 3 units. Tuition \$17.50 each semester.

This course is planned to cover the principles of elementary reinforced concrete design as applied to the simpler forms of concrete construction, such as slabs, beams, and columns. The work will consist of lectures, discussions, and a considerable amount of problem work to be done outside, as well as under supervision. Considerable attention will be paid to the study of concrete materials and problems in plain construction. Prerequisite, credit in N 50-11 and N 50-12.

N 50-33, 34. Design of Reinforced Concrete. Professor Sweetser

Not given in 1927-28; will be offered in 1928-29. Prerequisite, N 50-31, 32.

N 50-35. The Design of Concrete Mixtures.

Assistant Professor Wheeler

7:40-10:15 p. m. Thursday. Room 215, Cupples Hall I. No credit. Tuition \$10.00.

A laboratory course for seven evenings covering recent developments in the proper proportioning of concrete and dealing particularly with the "water-cement ratio" and "Fineness Modulus" methods. Students in this course should be those who are interested in the methods of scientific proportioning and who wish further to study or investigate this subject. The number of students permitted will be restricted to a small group and those who are interested should consult the instructor before registering.

N 55-17, 18. Estimating and Contracting. Mr. Murphy
7:15-10:15 p. m. Wednesday. Both semesters. Rooms 3 and 200, Cupples Hall I. Credit XII, 4 units. Tuition \$15.00 each semester.

The study of the best methods used for the computation of quantities and the preparation of unit costs to be applied to these quantities in the correct estimating of a building.

N 70-6. Engineering and Architectural Law. Professor Conant
For description of course, see under Law, page 76.

N 53-1, 2. Industrial Engineering. Professor Langsdorf
For detailed description of course, see page 60.

N 54-1. Appraisal and Valuation. Mr. G. C. Hetlage
For detailed description of course, see page 60.

ELECTRICAL ENGINEERING

For a statement of the courses required for the Certificate in Electrical Engineering, see page 30. Students desiring to become candidates for this certificate should consult with Professor Hake.

N 52-1. Elements of Electrical Engineering. Mr. Webb
7:30-10:15 p. m. Monday. Room 200, Cupples Hall II, and Engineering Laboratory. First semester. Credit XIV, 1½ units. Tuition \$17.50.

Electrical units. Electrical instruments and measurements. Electro-magnetic induction. Series, parallel, and series-parallel circuits. Ohm's and Kirchhoff's laws and their application to the calculation of sizes of wire for transmission and distribution circuits. The corresponding laws of the magnetic circuit and their application to the design of electro-magnets and lifting magnets. Prerequisite, a knowledge of trigonometry or registration in N 20-3.

N 52-2. Principles of Direct Current Machinery. Mr. Webb
7:30-10:15 p. m. Monday. Room 200, Cupples Hall II, and Engineering Laboratory. Second semester. Credit XIV, 1½ units. Tuition \$17.50.

Theory of direct current generators and motors of the series, shunt, and compound types, together with laboratory experiments involving practical testing and operation of these machines. Development of rules for winding armatures. Prerequisite, N 52-1.

N 52-3, 4. Elements of Alternating Currents. Professor Hake
7:30-10:15 p. m. Tuesday. Room 200, Cupples Hall II, and Engineering Laboratory. Both semesters. Credit XIV, 3 units. Tuition \$17.50 each semester.

Theory and calculation of alternating currents in single and polyphase circuits. Phase relations of currents and voltages in inductive and con-

densive circuits. Complex quantities. Meters and power measurements. Transformer theory and calculations. Phase transformations and transmission lines. Lectures and laboratory. Prerequisite, N 52-1, 2.

N 52-5, 6. Alternating Current Machinery.

Associate Professor Glasgow

Not given in 1927-28; will be offered in 1928-29. Prerequisite, N 52-3, 4.

N 52-7, 8. Electrical Machine Design.

Associate Professor Glasgow

7:30-10:15 p. m. Thursday. Room 200, Cupples Hall II.

Both semesters. Credit (ctf.) 3 units. Tuition \$17.50 each semester.

Application of the principles of direct and alternating current theory to the design of machines to meet given specifications. Lectures and work on calculations and design. Prerequisite, N 52-3, 4.

N 52-19, 20. Radio Communication. Associate Professor Glasgow

8:00-9:50 p. m. Wednesday. Room 200, Cupples Hall II.

Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

Elementary and alternating current theory will be briefly covered. Vacuum tube theory and circuits. Radio transmitting and receiving systems and their design. Wave meters and radio measurements. Lectures and demonstrations.

A 52-11. Advanced Course in Electrical Machinery.

Professor Upson

4:00-6:00 p. m. Wednesday. Room 200, Cupples Hall II.

First semester. Tuition \$15.00.

This course is intended for men who are graduates in Electrical Engineering. It will consist largely of lectures and assigned problems dealing with the application of electrical theory to the design and performance of electrical machines.

N 20-7, 8. Calculus.

Associate Professor Dunkel

For detailed description of course, see under Mathematics.

N 70-6. Engineering and Architectural Law. Professor Conant

For hours, credit, and detailed description of course, see page 76.

N 53-1, 2. Industrial Engineering.

Professor Langsdorf

For detailed description of course, see page 60.

MECHANICAL ENGINEERING

For a statement of the courses required for the Certificate in Machine Design, see page 31. Students desiring to become candidates for the certificate should consult with Professor Ohle.

N 51-1A, 2A. Power Plant Operation and Economics.

Professor Ohle

7:40-9:30 p. m. Monday. Room 102, Cupples Hall II. Both semesters. Credit $2\frac{1}{2}$ units. Tuition \$15.00 each semester.

Elementary thermodynamics; selection and operation of boilers; draft; furnace design and operation; flue gas analysis; economizers; selection and operation of simple and compound steam engines, steam turbines, and gas and oil engines; condensers; power plant records and management. Special emphasis on smoke abatement. One lecture period per week. With this course should be taken N 51-1B, 2B.

N 51-1B, 2B. Commercial Testing.

Assistant Professor Tucker or Remmers

7:30-10:15 p. m. Tuesday. Room 102, Cupples Hall II. Both semesters. Credit 2 units. Tuition \$17.50 each semester.

Care, operation, and testing of power plant instruments and equipment. Gages; meters; power measurement; steam boilers; engines, turbines, pumps; coal and gas analysis. Laboratory course to accompany N 51-1A, 2A.

N 51-3, 4. Machine Design (Lecture).

Professor Berger

7:40-9:30 p. m. Tuesday. Room 114, Cupples Hall II. Both semesters. Credit XIV, 2 units. Tuition \$15.00 each semester.

This course deals with the principles and accepted practice of machine design and includes thick and thin cylinders, riveted joints, flat plates, screws, keys, shafts, belt and rope drive, gears, couplings, springs, bearings, machine frames, shrink and force fits and similar subjects. Lectures and assigned problems. Prerequisite, a working knowledge of algebra and trigonometry. Text-book, Elements of Machine Design, by Nachman.

N 51-5, 6. Machine Design (Laboratory).

Professor Berger

7:30-10:15 p. m. Wednesday. Room 105, Cupples Hall II. Both semesters. Credit XIV, 3 units. Tuition \$17.50 each semester.

The practical application of the mechanics of machinery to the design and construction of machine elements and complete machines. Practice in making and working up complete detailed drawings of machine parts or of complete machines, which may include transmission gears, power punching or riveting machines or special machine tools.

N 51-7, 8. Kinematics (Mechanisms). Assistant Professor Tucker

7:30-10:15 p. m. Wednesday. Room 103, Cupples Hall II. Both semesters. Credit XIV, 3 units. Tuition \$17.50 each semester.

Class and drafting-room study of the laws governing the motions of various machine parts. Revolving and oscillating bodies; rolling cylinders, cones and discs; belts, ropes, and chains; levers and cams; bearings and screws; worm and wheel; toothed gearing and sprockets; spiral and bevel gears; trains of gearing; velocity diagrams; linkworks. Lectures and laboratory.

N 51-9. Shop Management.

Mr. Sager

7:30-10:15. Wednesday. Room 102, Cupples Hall II. Second semester. Credit XII, $1\frac{1}{2}$ units. Tuition \$15.00 plus a \$5.00 laboratory fee.

This course is planned for those who intend to become shop executives and who desire a knowledge of modern shop operation. The course will include study and discussion of metal-cutting tools, their form and cutting angles; cutting speeds and feeds; tool storage, issue, and maintenance; standardization of equipment and product and its effect on production; job planning and routing; production methods, modern developments in tools and equipment, design and use of jigs and fixtures; shop lighting and accident prevention.

N 51-15. Iron and Steel.

Assistant Professor Remmers

7:40-9:30 p. m. Thursday. Room 102, Cupples Hall II. First semester. Credit XII, 2 units. Tuition \$15.00.

An elementary course dealing with manufacture of pig iron, making of open-hearth, Bessemer, electric steel, etc. Discussion of the processes of the foundry and the rolling mill. Chemistry, while not required, is recommended as a prerequisite for this course.

N 51-16. Heat-Treatment of Iron and Steel.

Assistant Professor Remmers

7:30-10:15 p. m. Thursday. Room 102, Cupples Hall II. Second semester. Credit XII, $1\frac{1}{2}$ units. Tuition \$30.00.*

Methods of hardening, drawing, annealing and case-hardening will be discussed. The iron-carbon diagram will be studied in its relation to heat-treatment. Microstructure and interpretation of the same by use of the microscope. Lectures and laboratory.

N 51-12. Heating and Ventilation.

Professor Ohle

7:40-9:30 p. m. Tuesday. Room 103, Cupples Hall II. First semester. Credit XII, 2 units. Tuition \$15.00.

The principles of ventilating; the theory and design of hot-air, hot-water, and steam heating systems.

If there is sufficient demand, this course will be repeated in the second semester.

N 6-1, 2. Mechanical Drafting.

Professor Berger

For detailed description, see under Drafting.

N 6-5, 6. Descriptive Geometry.

Associate Professor Bubb

For detailed description, see under Drafting.

N 21-1, 2. Elementary Applied Mechanics.

Professor Berger

7:40-9:30 p. m. Monday. Room 114, Cupples Hall II. Both semesters. Credit XIV, 3 units. Tuition \$15.00 each semester.

* The tuition fee for this course will be graded: \$30.00 each if there are eight students in the class; \$25.00 if ten; and \$20.00 if twelve.

The course has particularly in mind the limited mathematical attainments of many beginners, and will require nothing beyond a knowledge of algebra and plane trigonometry. In the earlier part much use will be made of simple graphical calculations. The subject-matter will extend over statics, strength of materials, dynamics and hydraulics, all of these being dealt with in a simple, elementary way, and the course will thus form a suitable basis for subsequent technical instruction. A large place will be given to numerical calculations, and simple numerical illustrations will generally precede or replace algebraic formulae. The text used is Seeley's Applied Mechanics, and the ground covered is substantially the same as that gone over in the first semester's work of the regular course in the Engineering School, the difference consisting primarily in the substitution of numerical calculations for algebraic formulae.

N 70-6. Engineering and Architectural Law. Professor Conant

For hours, credit, and detailed description of course, see page 76.

INDUSTRIAL ENGINEERING

The course listed below will deal primarily with a series of problems concerning the processes of production which lie on the borderline between the province of the engineer and that of the business executive, but are of importance to both. The course is especially recommended to graduates of schools of commerce who wish to know something about the engineering problems involved in manufacture and to business executives whose problems have to do in part with manufacturing processes.

N 53-1, 2. Industrial Engineering. Professor Langsdorf

7:40-9:30 p. m. Monday. Room 203, Cupples Hall II. Credit XII, 4 units. Tuition \$15.00 each semester.

Origin and growth of the industrial system; principles of organization and systems of management; forms of ownership; time and motion studies; wages and bonus systems; cost accounting; production and control systems; material handling systems; record keeping and graphs; experimental and research departments.

Engineering Economics: Analysis of problems of investment; analysis of first costs; estimating; valuation and depreciation.

VALUATION ENGINEERING

N 54-1. Principles and Practice of Appraisal. Mr. Hetlage

7:40-9:30 p. m. Tuesday. Room 105, Duncker Hall. First semester. Credit XII, 2 units. Tuition \$15.00.

This course deals with the principles involved and methods employed in the appraisal of commercial, industrial, and residential properties. It includes consideration of construction costs, depreciation and capitalization of earnings as used in appraisals for various purposes. The course is intended primarily for men who are required to appraise property, but should be of interest also to executives who have occasion to use appraisals.

ENGLISH

For College courses, Special courses, and Business courses, see pages 61 to 65.

PREPARATORY COURSES

The units of credit in these courses are given on the basis of units of admission and not on the basis of semester hours.

N 11-A1. Review of English Grammar. Mr. Morrow

7:40-9:30 p. m. Tuesday and Friday. Room 200, University Hall. First semester. Credit E, $1\frac{1}{3}$ units. Tuition \$25.00.

This course is for mature students who feel the need of a review of the principles of English grammar or for those whose secondary school training has been deficient. Credit for admission will be received for this course unless the student has already covered the same ground elsewhere.

N 11-B1, 2. The Fundamentals of English Composition.

Mr. Detjen, Mrs. Hetlage, Mrs. Cook

7:40-9:30 p. m. Tuesday. Rooms 100, 209, and 228, University Hall. Both semesters. Credit E, $1\frac{1}{3}$ units. Tuition \$12.50 each semester.

This course is for those who are not sufficiently prepared to take N 11-1. It concerns the study and practice of good English, both commercial and literary. Oral and written exercises, combined with a thorough study of sentence structure, paragraphing, punctuation, etc. Prerequisite, N 11-A or its equivalent.

N 11-B3. The Fundamentals of English Composition.

Mr. Morrow

7:40-9:30 p. m. Tuesday and Friday. Room 200, University Hall. Second semester. Credit E, $1\frac{1}{3}$ units. Tuition \$25.00.

This course covers in one semester the entire ground of N 11-B1, 2 by meeting twice a week. Prerequisite, N 11-A or its equivalent.

N 11-C1, 2. Types of Modern Literature.

Miss Johnson

7:40-9:30 p. m. Thursday. Room 220, University Hall. Both semesters. Credit E, $1\frac{1}{3}$ units. Tuition \$12.50 each semester.

A study of the development of the novel, essay, short story, drama, etc., in English and American Literature. May be taken with N 11-B1, 2. Prerequisite, N 11-A, or its equivalent.

COURSES FOR COLLEGE CREDIT

N 11-1. Composition and Rhetoric.

Assistant Professors Jelinek, and Bond, Mr. Huntley,
Mr. Bowling, Mr. Howes

7:40-9:30 p. m. Tuesday and Friday. Rooms 104, 204, 206, 208, and 229, University Hall. First semester. Credit I, II, III, 4 units. Tuition \$25.00.

The study of the principles of rhetoric and of the forms of discourse. Themes at stated intervals; conferences with the instructor; collateral reading.

The course is open to those who have had a standard high school course in English or its equivalent.

N 11-2. Composition and Rhetoric (continuation of N 11-1).

Assistant Professors Jelinek and Bond, Mr. Huntley,
Mr. Bowling, Mr. Howes

7:40-9:30 p. m. Tuesday. Rooms 104, 204, 206, and 208,
University Hall. Second semester. Credit I, 2 units. Tuition
\$12.50.

The course continues the work of N 11-1, and, together with it, is the full equivalent of the regular Freshman college course in English.

A 11-1. Composition and Rhetoric.

Mrs. Cook

3:45-5:45 p. m. Tuesday and Friday. Room 100, University
Hall. First semester. Credit I, 4 units. Tuition \$25.00.

This course is identical with N 11-1 above.

A 11-2. Composition and Rhetoric (continuation of A 11-1).

Mrs. Cook

3:45-5:45 p. m. Tuesday. Room 100, University Hall. Second
semester. Credit I, 2 units. Tuition \$12.50.

The course continues the work of A 11-1, and, together with it, is the full equivalent of the regular Freshman college course in English.

This course is identical with N 11-2 above.

N 11-3, 4. Advanced English Composition. Types of Writing.

Assistant Professors Atkins and Carson

7:40-9:30 p. m. Thursday. Rooms 109 and 209, University
Hall. Both semesters. Credit I, II, 4 units. Tuition \$12.50 each
semester.

The course is designed as an introduction to advanced writing. In the first semester exposition, the formal and informal essay are studied. In the second semester descriptive writing, the anecdote, and the short story. Lectures, collateral reading, fortnightly themes, individual conferences, and class discussion of themes. Prerequisite, N 11-1, 2, or its equivalent.

Registration will be closed at twenty in each section.

N 11-5, 6. The Short Story.

Associate Professor Webster, Assistant Professor Taylor

7:40-9:30 p. m. Tuesday. Room 109, University Hall. Both
semesters. Credit I, 4 units. Tuition \$15.00 each semester.

A study of plot, character, and background in the short story and novel. The entire work of the course in both semesters is based upon the student's own writing.

This course is open to those who have a college degree, to those who have completed the work in N-11, 3 and 4, or to those who submit satisfactory manuscripts to the instructor.

Registration in each section will be limited to twenty-seven.

N 11-7, 8. The Technique of the Modern Drama.

Assistant Professor Carson

7:40-9:30 p. m. Wednesday. Room 100, Cupples Hall II.
Both semesters. Credit I, 4 units. Tuition \$15.00 each semester.

The principles and practice of play-construction. Study and analysis of representative plays both in book form and in the theatre. Reports and, by special permission of the instructor, original plays. Prerequisite: N 11-11, 12, 13 or its equivalent.

N 11-11, 12. General Introduction to English Literature.*

Associate Professor Parks, Assistant Professor Atkins

7:40-9:30 p. m. Wednesday. Rooms 108 and 109, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course is conducted in part by lectures, giving an account of movements and tendencies in literary history, but chiefly by careful study in class of selected masterpieces, with the purpose of developing intelligent literary appreciation. The first two semesters consider the literature from the Old English beginnings to the eighteenth century. For credit, prerequisite N 11-1, 2, or its equivalent.

N 11-13. General Introduction to English Literature.

Professor Jones

7:40-9:30 p. m. Tuesday. Room 106, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

English literature from Thomson to the close of the nineteenth century. For prerequisite, see N 11-11, 12.

N 11-14. American Literature.

Assistant Professor Carson

7:40-9:30 p. m. Friday. Room 108, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

An outline of the history of American literature, with special emphasis on the writers of the nineteenth century and on contemporary tendencies. Lectures, text-book, and extensive reading. Prerequisite, for credit, N 11-11, 12, 13.

N 11-21, 22. English Drama from Sheridan to Shaw.

Associate Professor Parks

7:40-9:30 p. m. Thursday. Room 108, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course will first consider the older fashion of playwriting in the works of Sheridan and the romantic poets. It will then take up the plays of Gilbert, Wilde, Jones, and Pinero, and the influence of the younger Dumas; Shaw, Barrie, Galsworthy, Synge, Yeats, and Barker, and the influence of Ibsen and Chekhov; and the most recent tendencies in theatre and drama, in the work of Reinhardt, Craig, and the expressionists. Prerequisite, N 11-11, 12, 13, or its equivalent.

* N 11-11, 12 and N 11-13 complete the work covered by English 11 in the College, required of Sophomores.

N 11-25, 26. Shakespearean Tragedy. Professor Mackenzie

7:40-9:30 p. m. Tuesday. Room 229, University Hall. Both semesters. Tuition \$12.50 each semester.

The course will deal with the various theories of tragedy, with particular emphasis upon the tragedy of Shakespeare. *Romeo and Juliet*, *Hamlet*, and other Shakespearean plays will be studied in detail. Prerequisite, English 11 or its equivalent.

N 11-30. Romanticism. Professor Jones

7:40-9:30 p. m. Tuesday. Room 106, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

A study of the fundamental principles of romantic art and philosophy as revealed in Wordsworth, Coleridge, Byron, Shelley, and Keats. Prerequisite, for credit, N 11-11, 12, 13, or its equivalent.

S 11-21. Contemporary English Drama.

Associate Professor Parks

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

After a preliminary study of the older playwrights, Wilde, Jones, and Pinero, the course will take up Shaw, Barrie, Galsworthy, Barker, and the Irish school. Some attention will be paid to the dramatic influence of Ibsen and Chekhov, and the recent theatrical tendencies of Reinhardt, Craig, and the expressionists.

S 11-23. Contemporary American Poetry.

Professor Jones

9:30 a. m. Saturday. Room 114, Cupples Hall II. Credit I, 2 units. Tuition \$12.50.

The course will explain conservatism, nationalism, and imagism in modern poetry, with emphasis upon the work of Sara Teasdale, Carl Sandburg, E. A. Robinson, Robert Frost, Amy Lowell, and J. G. Fletcher.

S 11-27. Shakespeare. Comedy, History, and Tragedy.

Professor Mackenzie

10:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

A consideration of the various types of Elizabethan drama, and a detailed study of specimens in the works of Shakespeare.

BUSINESS COURSES**N 11-Bx, y. Business English.**

Mr. Detjen

For detailed description of this course, see page 47.

N 11-D. Advanced Commercial English for Accountants.

Mr. McCarthy

For hours, credit, and detailed description of this course, see under Business, page 47.

N 11-E, F. Business Letters.

Mr. McCarthy

For hours, credit, and detailed description of this course, see under Business, page 48.

SPECIAL COURSES

N 11-X, Y. English for Educated Foreigners. Miss Sante
7:40-9:30 p. m. Thursday. Room 221, University Hall. Both semesters. Tuition \$12.50 each semester.

Foreign-born people who have had some college or professional training in their own countries are eligible. The course is planned to include English grammar, and some literature and composition. It should be of assistance to foreign students carrying English courses for credit.

N 11-W1, 2. Advanced English for Educated Foreigners. Miss Sante
8:00-8:55 p. m. Friday. Room 230, University Hall. Both semesters. Credit XII, 1 unit. Tuition \$15.00 each semester.

Specialized work in pronunciation with the purpose of producing fluency in speech. Prerequisite, English N 11-X, Y. The class is limited to a small number.

N 11-31, 32. Oral Study of Literature. Miss Grace
7:40-9:30 p. m. Thursday. Room 201, University Hall. Both semesters. Credit 4 units. Tuition \$12.50 each semester.

A course in reading aloud over a wide range of selected prose and poetry in order to develop a critical appreciation and the power to communicate it to an audience.

N 11-33, 34. The Study of Expressive Speech. Mrs. Eisloeffel
7:40-9:30 p. m. Monday. Room 108, University Hall. Both semesters. Credit XIV, 4 units. Tuition \$12.50 each semester.

The purpose of the course is to develop a well modulated speaking and reading voice. The program of study includes the following subjects: proper breathing; production of sounds; articulation and voice culture; the study of the mechanism of the voice; vocal drill; and the relation between mind and voice. Oral reading.

N 11-35, 36. Recreational Dramatics. Miss Grace
Not given in 1927-28. Will be offered in 1928-29.

N 11-39, 40. The Art of Story Telling. Mrs. Clifford
7:40-9:30 p. m. Tuesday. Room 109, University Hall. Both semesters. Credit XII, 4 units. Tuition \$12.50 each semester.

For teachers, Sunday school teachers, playground workers, parents, entertainers or those working with groups of children past the third grade, young people or adults. The study of the story, its construction, its adaptation to the group to which it is told; the rearrangement for telling; the appeal to the eye, the ear, the mind. The use of the voice. Vocabulary and conversational English.

A 11-39, 40. The Art of Story Telling. Mrs. Clifford
3:40-5:30 p. m. Tuesday. Room 109, University Hall. Both semesters. Credit XII, 4 units. Tuition \$12.50 each semester.

For kindergarten teachers and those working with groups of children through the third grade or to the age of nine years. The course deals with

the construction, adaptation, gradation, and proper presentation of the story to small children.

The use of the story as a means of discipline, of character building, of culture. The dramatization of the story. Vocabulary and conversational English.

FRENCH

Students desiring to complete the equivalent of French 1 in the College of Liberal Arts, may do so by taking N 12-1, 2, 3.

S 12-1. **Beginners' French.**

Assistant Professor Faure

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

The year will be given to the most important points of elementary grammar and to the reading of easy French.

S 12-3. **Continuation French.**

Assistant Professor Faure

11:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

This course is a continuation of S 12-1, with special emphasis on composition and conversation.

Open to students who present S 12-1. Students who have had one year or more of French in high school may be admitted at the discretion of the instructor.

N 12-1, 2. **Beginners' French.**

Associate Professor Parker, Assistant Professor Faure

7:40-9:30 p. m. Thursday. Rooms 104 and 106, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The year will be given to the most important points of elementary grammar, to the reading of easy French stories and to a great deal of oral work, in order to enable the student to understand easy sentences of spoken French and to reply to them.

N 12-3, 4. **Continuation French.**

Associate Professor Brown

7:40-9:30 p. m. Friday. Room 209, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

This course is a continuation of N 12-1, 2, with special emphasis on composition and conversation and the reading of modern French writers.

N 12-1, 2, 3 taken together are the equivalent of French 1 in the College.

Open to students who present N 12-1, 2. Students who have had one year or more of French in high school may be admitted at the discretion of the instructor.

N 12-5, 6. **Advanced French.**

Professor Douay

7:40-9:30 p. m. Friday. Room 109, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

Besides the usual work in composition and reading of modern French writers, special emphasis will be laid concerning conversation of France, its customs, traditions, provincial types, etc.

Open to students who present N 12-3, 4 or who have had two or three years of French in high school.

S 12-12. Modern French Drama.

Professor Douay

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

The object of the course, entirely conducted in French, is to follow the development of the French drama through the time of Augier and Dumas fils to the present time and show the changes introduced in the technique, as well as the subjects of the plays. Some of the works of Becque, de Curel, Brieux, and also the more recent dramatists, will be discussed.

Open to anyone able to follow a French lecture fairly well.

GEOGRAPHY AND GEOLOGY**N 13-1, 2. Geologic Interpretations.**

Professor McCourt

7:40-9:30 p. m. Monday. Room 112, Wilson Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

A series of illustrated lectures interpreting geologic phenomena and earth features with special reference to certain areas in the United States, as the National Parks and the regions of significant mineral production. The course will include such topics as: the stability of the earth, the materials of the earth, earth sculpture, caves, sea and land, the desert, riverways, glaciers, volcanoes, mountains, earthquakes, origin of the earth, growth of North America, life of the past. See also N 13-3, 4.

N 13-3, 4. Laboratory in Geology.

Mr. Stringfield

7:30-10:00 p. m. Wednesday. Laboratory, Wilson Hall. Both semesters. Credit I, 2 units. Tuition \$15.00 each semester.

This course is designed to accompany N 13-1, 2, and to give the student the laboratory work required in Geology I in the College of Liberal Arts and thus to complete the equivalent of a year's course in Geology.

N 13-7, 8. Historical Geology.

Assistant Professor Werner

7:40-9:30 p. m. Tuesday. Room 112, Wilson Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The first semester the course will include a resume of the earth's physical history, invertebrate life development, the use of invertebrates and sediments in determining the time sequence, and the geography of the geologic past as an index to animal migrations of the past. The second semester will cover the progressive development of the vertebrates from Amphioxus (not a known fossil) to Man as recorded in the fossil sequence.

N 13-21, 22. Principles of Economic Geography.

Associate Professor Thomas

7:40-9:30 p. m. Wednesday. Room 215, Wilson Hall. Both semesters. Credit I, XIV, 4 units. Tuition \$12.50 each semester.

A consideration of the geographic principles underlying economic activities in the various geographic regions of North America, and an application of these principles to world trade regions and trade routes.

S 13-2A. General Geography (Climatological).

Associate Professor Thomas

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

Lecture and text-book study of human adjustments to the animal, vegetational, and climatic elements of the geographic complex. Prerequisite, Introductory Geology or its equivalent.

S 13-2B. General Geography (Human).

Associate Professor Thomas

10:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

Lecture and text-book study of human adjustments to the land form, water body, soil, and mineral elements of the geographic complex. Prerequisite, Introductory Geology or its equivalent.

GERMAN

Students desiring to complete the equivalent of German 1 in the College of Liberal Arts, may do so by taking N 14-1, 2, 3.

N 14-1, 2. Elementary German.

Associate Professor Jente

7:40-9:30 p. m. Monday. Room 104, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

Instruction in formal grammar, with practice in speaking from the beginning.

N 14-3, 4. Continuation German.

Assistant Professor Nordmeyer

7:40-9:30 p. m. Wednesday. Room 206, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

Elementary syntax and prose composition. Graded reading, with conversational exercises. Prerequisite, N 14-1, 2 or its equivalent.

N 14-31, 32. Recent German Literature.

Associate Professor Jente or Assistant Professor Nordmeyer

7:40-9:30 p. m. Thursday. Room 206, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course will cover the development of German literature from Naturalism to Expressionism, in the lyric, the novel, and the drama. Reading of outstanding works; lectures and discussion partly or entirely in German, according to the preparation of the class. Prerequisite, for credit, 18 units in German.

GREEK**N 15-1, 2. Elementary Greek.**

Professor Duncan

7:40-9:30 p. m. Thursday. Room 206, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

A course designed for students who wish to begin the study of Greek. The course will complete the work ordinarily covered in a first Greek book.

S 32-9. The Greek Drama in Translation.

Professor Duncan

For a detailed description of the course, see under Literature.

HISTORY

(For other courses in this field, see Political Science.)

N 16-A, B. College Preparatory Course in American History.

Mr. Wesley

7:40-9:30 p. m. Monday. Room 220, University Hall. Credit E, 1½ units. Both semesters. Tuition \$12.50 each semester.

This course is designed for students who have not completed their high school work.

N 16-1. Introduction to the Social Sciences, Part I.

Professor Marshall

7:40-9:30 p. m. Wednesday. Room 230, University Hall.
First semester. Credit I, 2 units. Tuition \$12.50.

Social, economic, and political history of the United States to 1850. This course is designed to cover the first third of the course in the Social Sciences required of all Freshmen in the College.

N 16-2. Introduction to the Social Sciences, Part II.

Professor Marshall

7:40-9:30 p. m. Wednesday. Room 230, University Hall.
Second semester. Credit I, 2 units. Tuition \$12.50.

Social, economic, and political history of the United States, 1850 to the present day. This corresponds to the second third of the required Freshman course in the College.

N 16-3. Introduction to the Social Sciences, Part III.

Professor Marshall

7:40-9:30 p. m. Monday. Room 230, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

Discussion of economic and political conditions in recent American History and a survey of American governmental institutions. Part III of the required Freshman course in the College.

N 16-2C. English Constitutional History, Part III.

Associate Professor Bieber

7:40-9:30 p. m. Monday. Room 209, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

This course covers English History from 1815 to the present time, and is the last third of History 2 in the College, a required course for Pre-Legals.

N 16-3A. The History of Western Europe, Part I.

Associate Professor Bieber

7:40-9:30 p. m. Tuesday. Room 230, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

This is the first third of History 3 in the College. It covers European History from the fall of the Roman Empire in 1485.

N 16-3B. The History of Western Europe, Part II.

Associate Professor Bieber

7:40-9:30 p. m. Tuesday. Room 230, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

This is the second part of History 3 in the College. It covers European History from 1485 to 1815.

N 16-3C. The History of Western Europe, Part III.

Professor McFayden

7:40-9:30 p. m. Thursday. Room 230, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

This is the third part of History 3 in the College. It covers European History from 1815 to 1914.

N 16-36. The Great War and After. Professor McFayden

7:40-9:30 p. m. Thursday. Room 230, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

The military history of the War in outline, the peace treaties, the reorganization of Europe, and the main problems confronting the principal countries of Europe.

S 16-11. The First Four Christian Centuries.

Professor McFayden

10:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

The evolution and decay of the Roman Empire, politically, economically, and socially. The new paganism and its characteristics. The rise, evolution, and triumph of the Christian Church.

Prerequisite, for credit, 12 units of History or 6 units of History and 6 units of Latin.

S 16-31. The Outstanding Personalities of Modern World History.

Professor Usher

9:30 a. m. Saturday. Old Chapel. Credit XII, 2 units. Tuition \$12.50.

Among those whose biographies will be discussed are the Kaiser, Roosevelt, Wilson, Ghandi, Lloyd George, Clemenceau, Hindenburg, Lenin, Trotsky, Mussolini. To be illustrated with stereopticon slides.

HOME ECONOMICS

N 75-1. Nutrition.

Mrs. Ward

7:40-9:30 p. m. Tuesday. Room 223, University Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

This course describes very simply the nutritive properties of common food materials and the essentials of an adequate diet. The application of such knowledge to the feeding of individuals and family groups is discussed.

A 75-1. Nutrition.

Mrs. Ward

3:30-5:30 p. m. Tuesday. Room 100, Cupples Hall I. First semester. Credit XII, 2 units. Tuition \$15.00.

This course describes very simply the nutritive properties of common food materials and the essentials of an adequate diet. The application of such knowledge to the feeding of individuals and family groups is discussed.

A 75-3. Food Economics.

Mrs. Ward

3:30-5:30 p. m. Tuesday. Room 108, University Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

This course presupposes a knowledge of the nutritive value of food stuffs and the principles of adequate diet as given in A 75-1, Nutrition. The various available foods are studied in some detail as to their sources and processes of manufacture and marketing, insofar as these may affect the purity, food value, and flavor of the product. Methods of preparation for the table are outlined and practical demonstrations are given.

A 75-6. Home Management.

Mrs. Ward

3:30-5:30 p. m. Thursday. Room 108, University Hall.
Second semester. Credit XII, 2 units. Tuition \$15.00.

This course reviews the various activities and problems of home management and discusses them in relation to each other. Subjects considered are budgeting, household accounting, family savings, housework schedules, and labor saving, servants and public service, community enterprises, the family as a social group, and the freedom of the home maker.

A 75-7, 8. Clothing Design.

Miss Butler

3:45-5:45 p. m. Tuesday. School of Fine Arts. Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

The course will include the fundamental study of the figure, the study of individual figure (proportion of figure and its application to design and color), history of dress, principles of design as related to dress, study of materials, color as related to the individual, pattern drafting, draping.

A 75-9. Sanitation.

Mrs. Ward

3:30-5:30 p. m. Thursday. Room 108, University Hall.
First semester. Credit XII, 2 units. Tuition \$15.00.

The course is designed to instruct the student in the essentials of household and community sanitation and in the prevention of the spread of infection.

A 75-11, 12. Organic and Biochemistry.

Dr. Ronzoni

3:30-5:30 p. m. Wednesday. Chemistry Lecture Room,
Department of Biochemistry, School of Medicine. Both semesters.
Credit XII, 3 units. Tuition \$15.00 each semester.

This course summarizes the principles of Organic Chemistry as applied to Biochemistry. Emphasis will be laid on the chemistry of food and nutrition. Prerequisite, a knowledge of general chemistry.

A 75-13, 14. Child Care and Home Nursing.

Miss Cooper

3:30-5:30 p. m. Friday. Barnes Hospital, Department of
Nursing. Both semesters. Credit XII, 4 units. Tuition \$15.00
each semester.

First Semester—Home Nursing Second Semester—Child Care

The first part of the course deals with the phases of home nursing which have to do with the prevention and care of illness in the home. The early recognition of the common symptoms of disease, the prevention and care of common ailments, sick-room management, and the serving of food will be discussed. The course includes demonstration in the simple nursing procedures.

The second part of the course deals with the theory and practice of the care of infants and small children, pursuing such topics as daily regimen, food, sleep, bathing, and clothing. The physiological basis in the development of the nervous system and mental life. The course includes demonstration in the simple nursing procedures. Course N 9-5, Child Psychology, is suggested to precede this.

N 6-3, 4. Interior Decoration I. Assistant Professor Valenti
For detailed description of course, see under Interior Decoration.

N 6-7, 8. Interior Decoration II. Assistant Professor Valenti
For detailed description of course, see under Interior Decoration.

INCOME TAXES

(See under Business.)

INTERIOR DECORATION

N 6-3, 4. Interior Decoration (Lecture Course).

Assistant Professor Valenti

7:40-9:30 p. m. Monday. Room 113, Cupples Hall I. Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

Study of the decorative treatments of period interiors, and their application to the modern home. Principles of design applied to interior decoration. Treatment of floors, walls, and woodwork, windows and doors and radiators. Furniture arrangement, picture framing and hanging, artificial lighting, color scheme. Those students intending to prepare for professional work in interior decoration are urged to take N 6-7, 8 in conjunction with this course.

N 6-7, 8. Interior Decoration (Laboratory).

Assistant Professor Valenti

7:40-9:30 p. m. Thursday. Room 9, Cupples Hall I. Both semesters. Credit XII, 3 units. Tuition \$15.00 each semester.

Problems in design; plans, elevations, and perspective sketches of interiors in water color work to be arranged individually according to previous training and ability of student.

N 6-9, 10. Interior Decoration (Advanced Laboratory).

Assistant Professor Valenti

7:40-9:30 p. m. Thursday. Room 9, Cupples Hall I. Both semesters. Credit XIV, 3 units. Tuition \$15.00 each semester.

The problems in this course will parallel those in N 6-7, 8 but will be of a more advanced nature. This course is designed to give a complete preparation for those desiring to enter the professional field of interior decoration. Prerequisite, N 6-7, 8 or its equivalent.

ITALIAN

N 27-21, 22. Italian for Beginners. Assistant Professor Battista

7:40-9:30 p. m. Friday. Room 106, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

A practical course open to all who are interested in the Italian language and literature. A careful study of the grammar of the language will be supplemented by composition, conversation, and reading of appropriate texts.

N 27-23, 24. Continuation Italian. Assistant Professor Battista
7:40-9:30 p. m. Monday. Room 204, University Hall. Both
semesters. Credit I, 4 units. Tuition \$12.50 each semester.

Reading of easy Italian texts with special emphasis on pronunciation and
conversation. Systematic grammar review.

JOURNALISM

N 11-41, 42. The Principles of Journalism. Mr. Bland
7:40-9:30 p. m. Wednesday. Room 100, University Hall.
Both semesters. Credit I, 4 units. Tuition \$15.00 each semester.

A survey of the journalistic field, a study of the principles of journalism,
intensive practice in the various forms of journalistic writing, collateral read-
ing, and book reviews.

N 11-43, 44. Types of Journalistic Writing. Mr. Bland
7:40-9:30 p. m. Thursday. Room 100, Cupples Hall I. Both
semesters. Credit I, 4 units. Tuition \$15.00 each semester.

The course will deal with the various types of journalistic writing and will
include a study of periodical publications and discussions of current events
from the journalistic point of view.

LATIN

Students desiring to complete the equivalent of Latin 1 in the
College of Liberal Arts may do so by taking N 19-1, 2, 3, and
those desiring to complete the equivalent of Latin 2 by taking
N 19-4, 5, 6.

N 19-1, 2. Latin for Beginners. Professor Tavenner
7:40-9:30 p. m. Thursday. Room 200, University Hall. Both
semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The object of the course will be to present the fundamentals of Latin,
with special emphasis placed upon the relationship of English to Latin. So
far as possible the work of the course will not only prepare students for
further study of the Latin language and literature, but will enrich the stu-
dent's English vocabulary and give to those who expect to study law, medi-
cine, or other sciences, a means of understanding more perfectly the termi-
nology of those subjects.

N 19-3, 4. Second Year Latin. Assistant Professor Lowe
7:40-9:30 p. m. Monday. Room 200, University Hall. Both
semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The object of this course will be to give the student the ability to read
Latin prose of reasonable difficulty with sufficient rapidity and accuracy to
insure both pleasure and profit. While the major portion of the text will
be drawn from Caesar's *Bellum Gallicum*, extracts from other authors will be

read. Prose composition will occupy a part of each recitation period. Pre-requisite, N 19-1, 2, or its equivalent.

N 19-5, 6. Third Year Latin.

Professor Duncan

7:40-9:30 p. m. Wednesday. Room 200, University Hall.
Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The object of this course will be to give the student the power to read such Orations of Cicero as are ordinarily read in the high school. In addition students will be given a review in the essentials of grammar, together with some work in prose composition.

LAW

The School of Law of the University offers no evening courses for credit. Students who plan to enter the School of Law later may take in Evening Courses the college subjects listed on page 22, which are required for admission to the School of Law.

The courses listed below cover special subjects of interest to various lines of business, but are offered by members of the faculty of the School of Law.

N 7-41. Business Law I.

Professor Cullen

7:40-9:30 p. m. Wednesday. Room B-2, January Hall.
First semester. Credit XIV, 2 units. Tuition \$15.00.

The rules governing business men in their transactions and conduct with each other. What to avoid and what to do in drawing up contracts. What are the rights of persons where there is fraud or mistake? How may obligations of business contracts be discharged? What are the rights of an agent? When is he personally responsible instead of his employer? The materials of the course are taken from the mistakes and business disagreements of real business men in actual business cases. The first course covers contracts and agency.

N 7-42. Business Law II.

Professor Cullen

7:40-9:30 p. m. Wednesday. Room B-2, January Hall.
Second semester. Credit XIV, 2 units. Tuition \$15.00.

The rules governing business men in their transactions and conduct with each other, continued. Nine-tenths of business is done by means of checks, drafts, and promissory notes. Some use trade-acceptances. What does the maker of a note, the drawer of a draft, the acceptor, the indorser obligate himself to do? When does the vendor lose title to his goods? When can he stop goods in transit? What rights have persons under a warranty in a sale? What acts of a partner is the other liable for? What are the rights of a partner? How to draw up a partnership agreement. How are corporations organized? What are the rights of a stockholder? The second course treats negotiable instruments, sales, partnerships, and corporations—all from actual business transactions.

N 7-67. Real Estate Agency I. Land and Its Ownership.

Professor Cullen

7:40-9:30 p. m. Thursday. Room B-2, January Hall. First semester. Credit XII, 2 units. Tuition \$15.00.

Absolute, conditional, and equitable rights in real estate and in the land of others. Widows' and widowers' rights. Landlord and tenant. Borrowers' and lenders' rights. Restrictions. Easements. Titles. Liens. This course covers the rules governing the conveyance and ownership of real estate and is discussed from actual transactions and situations arising in the sale, rental, and enjoyment of land.

N 7-68. Real Estate Agency II. Real Estate Practice.

Professor Cullen

7:40-9:30 p. m. Thursday. Room B-2, January Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

The duties of the real estate broker. When commissions must be paid; to whom money belongs; when the owner may change brokers. Loans, leases, and conveyance of land. The drawing of deeds, leases, deeds of trust and other instruments; other items of practice. Full discussion of all points from actual transactions and situations arising in business. All instruments will be discussed from models.

N 70-5. Workmen's Compensation Act.

Professor Rutledge

7:40-9:30 p. m. Monday. Room B, January Hall. First semester. Credit XII, 2 units. Tuition \$15.00.

A study of the Missouri statute, supplemented by cases arising under similar laws; what employers and employees are affected by it; the right to elect to accept or reject the act; what accidents and injuries are included, and what compensation is allowed for them. The commission, its organization and procedure. Insurance against liability under the act.

N 70-4. Wills and Administration.

Professor Rutledge

7:40-9:30 p. m. Monday. Room B, January Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

Who has a right to inherit in Missouri in the absence of a will? Rights of widows and dependent children. How to draw a will in proper form and how wills are probated. What takes place in administration and settlement of estates; payment of claims against, and collection, management and distribution of, estates; Federal and Missouri inheritance taxes.

N 70-15. Parliamentary Law.

Professor Conant

7:40-9:30 p. m. Tuesday. Room B, January Hall. First semester. Credit XII, 2 units. Tuition \$12.50.

I. Rules of Order: introduction of business; motions; committees; debate and decorum; voting; quorum; order of business. II. Organization and Conduct of Business: officers and committees; introduction of business; motions; order and rules; questions of privilege; close of meeting; adjournment; right to punish a member; right to eject from meeting; right of trial of members of society.

N 70-6. Engineering and Architectural Law. Professor Conant
7:40-9:30 p. m. Tuesday. Room B, January Hall. Second semester. Credit XII, 2 units. Tuition \$15.00.

This course is designed to aid engineers and architects in preparing contracts and specifications for public and private works. More than half of such contracts are prepared by engineers or architects without consultation with the legal profession. The course will deal with the following topics: preparation of contracts; terms of collateral agreements; bids and bidders, rights and liabilities of bidders for public work; the advertisement, instructions to bidders, forms for proposals, bonds and security for performance; award of contract; work for private parties; property of engineers or architects in designs and inventions; liability of engineer or architect as a professional man; compensation of engineers and architects; liens; free passes; employment as an expert witness.

LITERATURE

N 32-5, 6. Prophets of Dissent. Professor Heller
7:40-9:30 p. m. Monday. Room 109, University Hall. Both semesters. Credit I, 4 units. Tuition \$15.00 each semester.

A consideration of the basic issues in recent European literature as presented in the most influential older writers (Tolstoy, Nietzsche, Ibsen, Strindberg, Maeterlinck, Hauptmann) and of the present-day struggle for artistic and social transformation as typified in Free Verse, Expressionism, Russian and Italian drama (Chekhov, Pirandello), etc. Prerequisite, for credit, 30 units in the fields of Language and Literature. Students interested in the cultural value of the course without reference to credit may be admitted to the lectures without meeting this specific requirement.

N 11-25, 26. Shakespearean Tragedy. Professor Mackenzie
7:40-9:30 p. m. Tuesday. Room 229, University Hall. Both semesters. Tuition \$12.50 each semester.

The course will deal with the various theories of tragedy, with particular emphasis upon the tragedy of Shakespeare. *Romeo and Juliet*, *Hamlet*, and other Shakespearean plays will be studied in detail. Prerequisite, English 11 or its equivalent.

N 11-11, 12. General Introduction to English Literature.*
Associate Professor Parks, Assistant Professor Atkins
7:40-9:30 p. m. Wednesday. Rooms 108 and 109, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course is conducted in part by lectures, giving an account of movements and tendencies in literary history, but chiefly by careful study in class of selected masterpieces, with the purpose of developing intelligent literary appreciation. The first two semesters consider the literature from the Old English beginnings to the eighteenth century. For credit, prerequisite N 11-1, 2, or its equivalent.

* N 11-11, 12 and N 11-13 complete the work covered by English 11 in the College, required of Sophomores.

N 11-13. General Introduction to English Literature.*

Professor Jones

7:40-9:30 p. m. Tuesday. Room 106, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

English Literature from Thomson to the close of the nineteenth century. For prerequisite, see N 11-11, 12.

N 11-14. American Literature.

Assistant Professor Carson

7:40-9:30 p. m. Friday. Room 108, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

An outline of the history of American literature, with special emphasis on the writers of the nineteenth century and on contemporary tendencies. Lectures, text-book, and extensive reading.

N 11-21, 22. English Drama from Sheridan to Shaw.

Associate Professor Parks

7:40-9:30 p. m. Thursday. Room 108, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course will first consider the older fashion of playwriting in the works of Sheridan and the romantic poets. It will then take up the plays of Gilbert, Wilde, Jones, and Pinero, and the influence of the younger Dumas; Shaw, Barrie, Galsworthy, Synge, Yeats, and Barker, and the influence of Ibsen and Chekhov; and the most recent tendencies in theatre and drama, in the work of Reinhardt, Craig, and the expressionists. Prerequisite, N 11-11, 12, 13, or its equivalent.

N 11-30. Romanticism.

Professor Jones

7:40-9:30 p. m. Tuesday. Room 106, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

A study of the fundamental principles of romantic art and philosophy as revealed in Wordsworth, Coleridge, Byron, Shelley, and Keats. Prerequisite, for credit, N 11-11, 12, 13, or its equivalent.

N 14-31, 32. Recent German Literature.

Associate Professor Jente or Assistant Professor Nordmeyer

7:40-9:30 p. m. Thursday. Room 206, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course will cover the development of German literature from Naturalism to Expressionism, in the lyric, the novel, and the drama. Reading of outstanding works; lectures and discussion partly or entirely in German, according to the preparation of the class. Prerequisite, for credit, 18 units in German.

S 11-21. Contemporary English Drama.

Associate Professor Parks

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

After a preliminary study of the older playwrights, Wilde, Jones, and Pinero, the course will take up Shaw, Barrie, Galsworthy, Barker, and the

* N 11-11, 12 and N 11-13 complete the work covered by English 11 in the College, required of Sophomores.

Irish school. Some attention will be paid to the dramatic influence of Ibsen and Chekhov, and the recent theatrical tendencies of Reinhardt, Craig, and the expressionists.

S 11-23. Contemporary American Poetry. Professor Jones
9:30 a. m. Saturday. Room 114, Cupples Hall II. Credit I, 2 units. Tuition \$12.50.

The course will explain conservatism, nationalism, and imagism in modern poetry, with emphasis upon the work of Sara Teasdale, Carl Sandburg, E. A. Robinson, Robert Frost, Amy Lowell, and J. G. Fletcher.

S 11-27. Shakespeare. Comedy, History, and Tragedy. Professor Mackenzie

10:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

A consideration of the various types of Elizabethan drama, and a detailed study of specimens in the works of Shakespeare.

S 32-7. The Bible as Literature. Dr. Block

10:30 a. m. Saturday. Credit XII, 2 units. Tuition \$12.50.

The course will deal with the Songs and the book of Job. It will emphasize, primarily, literary values, but will also consider the social and ethical teachings of the various books.

S 11-40. History of Books and Libraries. Mr. McMillen

9:30 a. m. Saturday. Ridgley Library. Credit XII, 2 units. Tuition \$12.50.

A history of printing and book-making from the days of the manuscript to the present time. The development of the great libraries and the cultural influences of the library as an institution are especially stressed.

S 32-9. Greek Drama (in translation). Professor Duncan

10:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

Reading and interpretation of the tragedies of Æschylus, Sophocles, and Euripides, and of the comedies of Aristophanes. Study of the origin of tragedy and comedy, and of Athenian dramatic technique. A knowledge of the Greek language is not necessary.

S 12-12. Modern French Drama. Professor Douay

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

The object of the course, entirely conducted in French, is to follow the development of the French drama through the time of Augier and Dumas fils to the present time and show the changes introduced in the technique as well as the subjects of the plays. Some of the works of Becque, de Curel, Brieux, and also the more recent dramatists will be discussed.

Open to anyone able to follow a French lecture fairly well.

MATHEMATICS

For preparatory courses in Mathematics, see page 80.

COURSES FOR COLLEGE CREDIT

N 20-1, N 20-3, or N 20-3A, and N 20-4 may be taken as the equivalent of first-year college mathematics (Mathematics 12) or

of first-year engineering mathematics (Mathematics 1). Students desiring credit for both Mathematics 1 and 2 in the School of Engineering should complete these courses and, in addition, N 20-5, 6.

N 20-1. College Algebra.

Associate Professor Rider

7:40-9:30 p. m. Monday. Room 223, University Hall. First semester. Credit I, II, III, 2 units. Tuition \$12.50.

A study of the usual topics of college Algebra, such as exponents, linear and quadratic equations, progressions, permutations and combinations, the binomial theorem, logarithms, variation. Prerequisite, N 20-C or its equivalent.

N 20-3. Trigonometry.

Associate Professor Rider or ———

7:40-9:30 p. m. Wednesday. Room 229, University Hall. First semester. Credit I, II, III, 2 units. Tuition \$12.50.

Trigonometric functions, derivation of important formulas, use of logarithms, solution of right and oblique triangles, applications to problems in surveying, mechanics, etc. Prerequisite, at least N 20-A, B.

N 20-3A. Trigonometry.

Associate Professor Rider or ———

7:40-9:30 p. m. Wednesday. Room 229, University Hall. Second semester. Credit I, II, III, 2 units. Tuition \$12.50.

This course is the same as N 20-3. Trigonometry may be taken either with N 20-1 or N 20-4 by students desiring to obtain credit in the College or the School of Engineering for Mathematics 12 or Mathematics 1.

N 20-4. Analytic Geometry.

Mr. Grummann

7:40-9:30 p. m. Tuesday. Room 223, University Hall. Second semester. Credit I, II, III, 2 units. Tuition \$15.00.

The fundamental principles underlying the relations between geometry and algebra; together with the study of the equations of simple curves and surfaces, their graphic representation, and their application to business and engineering problems. This is part of the preparation necessary for the study of calculus.

N 20-5, 6. Engineering Mathematics.

Mr. Grummann

7:40-9:30 p. m. Thursday. Room 223, University Hall. Both semesters. Credit II, III, 4 units. Tuition \$12.50 each semester.

This course includes certain topics, such as simple harmonic motion, center of gravity and moments of inertia, which are prerequisites for Mathematics 3, but which are not included in N 20-1, 3 and 4. Prerequisite, N 20-3 or 3A.

N 20-7, 8. Calculus.

Associate Professor Dunkel

7:40-9:30 p. m. Friday. Room 223, University Hall. Both semesters. Credit I, II, III, 4 units. Tuition \$15.00 each semester.

A course on the elements of the differential and integral calculus. Topics will be selected with the view of aiding students in the mathematical parts of their engineering studies. Prerequisite, N 20-4 or its equivalent.

N 20-10. Theory of Equations.

Professor Roever

Not given in 1927-28.

N 20-12. Business Mathematics.

Associate Professor Rider

7:40-9:30 p. m. Monday. Room 223, University Hall. Second semester. Credit XIV, 2 units. Tuition \$15.00.

This course treats such topics as interest, discount, sinking funds, bond valuation, depreciation, and mathematics of life insurance. A brief review of algebra, particularly logarithms, will be given.

N 20-13, 14. Actuarial Mathematics.

Associate Professor Rider

4:00-5:50 p. m. Tuesday. Missouri State Life Insurance Building. Both semesters.* Credit XII, 4 units. Tuition \$15.00 each semester.

The aim of this course is to prepare the student for the associateship examinations of the Actuarial Society of America and the American Institute of Actuaries.

The content of the course will depend largely upon the needs of the individual members of the class. In the main the subjects treated will be those topics required in the associateship examinations but not usually stressed in the ordinary courses in Mathematics. Among these will be permutations and combinations, probability, finite differences, statistics, interest and annuities, mathematics of life insurance, and certain phases of Analytic Geometry and Calculus.

N 57-2. Navigation.

Mr. Grummann

For description of course, see page 82.

PREPARATORY COURSES**N 20-A, B. Algebra I.**

Associate Professor Dunkel

7:40-9:30 p. m. Wednesday. Room 221, University Hall. Both semesters. Credit E, $1\frac{1}{3}$ units. Tuition \$12.50 each semester.

This course is intended for those who have never studied algebra or for those who wish to review the subject from the beginning. The usual topics will be taken up through quadratic equations, including the binomial theorem for positive integral exponents, ratio and proportion, the progressions and the use of logarithmic tables for computations.

N 20-F. Plane Geometry.

Mr. Yates

7:40-9:30 p. m. Monday. Room 221, University Hall. First semester. Credit E, $\frac{2}{3}$ unit. Tuition \$12.50.

This course corresponds to the usual high school course in the subject and requires no previous mathematical preparation.

* In the second semester the class will meet twice a week in order to complete the work of the course before the date of the annual actuarial examinations.

N 20-C. Algebra II. (Intermediate Algebra).

Mr. Grummann or —————

7:40-9:30 p. m. Wednesday. Room 223, University Hall.
First semester. Credit E, $\frac{2}{3}$ unit. Tuition \$15.00.

This course in Algebra is open to graduates of high schools who have had one year of secondary algebra. It is designed for those who present for admission to the School of Engineering less than the three required units in Mathematics.

N 20-D. Solid Geometry.

Mr. Yates

7:40-9:30 p. m. Monday. Room 221, University Hall. Second semester. Credit E, $\frac{2}{3}$ unit. Tuition \$15.00.

This course in Solid Geometry is open to graduates of high schools who have had a year of Plane Geometry.

This course is designed for those who present for admission to the School of Engineering less than the required three units in Mathematics.

MUSIC**A 24-1. Musical Appreciation.**

Mr. Kroeger

4:00-5:30 p. m. Tuesday. January Hall Auditorium. Twenty lectures beginning November 8th. Credit XII, 2 units. Tuition \$12.50.

The course will consist of lectures with piano illustrations, and will include the characteristics of rhythm, melody, and harmony; folk music; dance forms; early church music; chorales and hymns; the song; the development of the sonata; the golden era of the sonata; chamber music; the symphony; lyric forms; descriptive and picturesque music; the symphonic poem; sacred music; the mass, the cantata, the oratorio; the opera. Not given for less than twelve students.

For those who desire credit, text-book and supplementary reading will be assigned.

A 24-3. Elementary Harmony.

Mr. Kroeger

4:45-5:45 p. m. Monday. January Hall Auditorium. Both semesters. Credit XII, 2 units. Tuition \$15.00.

The scales, intervals, cadences, sequences, triads and their inversions, seventh chords and their inversions, altered chords, keyboard harmony.

A 24-5. Musical History.

Mr. Kroeger

3:45-4:45 p. m. Monday. January Hall Auditorium. Both semesters. Credit XII, 2 units. Tuition \$15.00 for the year.

Music of the Ancient Nations; Medieval Music; the Development of Counterpoint; the Development of Homophony; the Classic Period; the Romantic Period; the Impressionist and Post-Impressionist Periods.

MECHANICAL ENGINEERING

(See under Engineering.)

NAVIGATION

N 57-2. Navigation.

Mr. Grummann

7:40-9:30 p. m. Wednesday. Room 220, University Hall.
First semester. Credit XII, 2 units. Tuition \$15.00.

Designed primarily for persons preparing for examination for commission in the United States Naval Reserve, but open to others interested in the subject. A brief account of certain topics in Trigonometry will be included. Instruments of navigation. Charts, tables, and other sources of information for mariners. Piloting. The sailings and dead reckoning. Elementary nautical astronomy. The simpler sights, including meridian altitude, azimuth, and the time sight. Lectures, practice in making sextant observations, assigned problems. Prerequisite: high school Algebra and Geometry.

PHILOSOPHY

N 22-11, 12. Ancient and Modern Conceptions of Man and the World.

Professor Cory

7:40-9:30 p. m. Monday. Room 106, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course will give the student an historical approach to the outstanding ideas which man has used in interpreting his experience. Equivalent, in general, to Philosophy 11.

Students desiring to meet the requirement of 6 units in the College of Liberal Arts should take this course and an additional 2 units in Philosophy, approved by the head of the department.

N 22-13, 14. The Philosophy of Religion.

Associate Professor Chambers

7:40-9:30 p. m. Thursday. Room 204, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

The course will consider the meaning of religion from the point of view of modern thought, its relation to evolutionary science and the social order. The aim will be to find the essential elements of religion and define their functions in man's life as a whole. Prerequisite, for credit, a previous course in Philosophy, preferably N 22-11, 12 or its equivalent.

PHYSICS

N 23-1, 2. Mechanics, Heat, and Sound.

Associate Professor Hagenow

Not given in 1927-28. Will be offered in 1928-29.

N 23-3, 4. Magnetism, Electricity, and Light.

Associate Professor Hagenow

7:15-10:15 p. m. Thursday. Room 100, Eads Hall. Both semesters. Credit I, 3 units. Tuition \$15.00 each semester.

This course will include a study of the properties of matter, including magnetism, electricity, and light; an explanation of these properties on the basis of modern theories of the structure of matter. Lectures and laboratory. This course, together with N 23-1, 2, is the equivalent of Physics I in the College of Liberal Arts. Either course may be taken first.

POLITICAL SCIENCE

N 25-1, 2. American Government. Assistant Professor McKenzie
7:40-9:30 p. m. Wednesday. Room 106, University Hall.
Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

A course designed to give the citizen a working knowledge of the government under which he lives. A rapid survey is made of the National government and its problems as a preparation for a more detailed and intensive study of the state governments. The larger part of the course is devoted to the consideration of the governments and problems of the forty-eight states.

N 25-3, 4. State and Local Government.

Assistant Professor McKenzie

7:40-9:30 p. m. Tuesday. Room C, January Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

This course consists of a descriptive survey and critical study of the government and problems of cities, counties, towns, and villages in the United States. This course and Course N 25-1, 2 together constitute the equivalent of Political Science 3 in the College of Liberal Arts.

S 25-7. Problems of American Citizenship.

Professor Loeb

9:30 a. m. Saturday. Both semesters. Credit I, 2 units.
Tuition \$12.50.

An introductory course dealing with the organization and functions of American government and the important current problems confronting the citizen.

A 70-15. Parliamentary Law.

Professor Conant

For detailed description of course, see page 75.

PSYCHOLOGY

For detailed descriptions of courses in Education, see page 51.

S 9-7. Human Behavior and Its Psychology.

Professor Swift

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

An interpretation of normal and abnormal minds, together with the causes which lead to variation from the normal. Attention will be given to the practical aspects of the subject as they reveal themselves in the behavior of men and women in social intercourse and in the day's work.

S 9-5. The Psychology of Childhood and Youth.

Professor Swift

10:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

The purpose of the course is to help parents and teachers to understand children, to see their problems and to plan their training and education. The new conditions of life have made new difficulties which trouble thoughtful parents and teachers. This course will deal with these problems and will interpret recent investigations in development and mental hygiene.

N 9-1. General Psychology.*

Associate Professor McGeoch, Mr. Bunch

7:40-9:30 p. m. Monday. Room B-3, January Hall, and Room 208, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

A careful survey of the principles of human psychology. The aim of the course is to give an understanding of the fundamentals of human behavior. The major emphasis will be placed on the principles and data which have most significance for practical affairs and the conduct of life in general.

Section 1, Professor McGeoch. Section 2, Mr. Bunch. Section 1 will be limited to 60. Students will be enrolled in it in the order of application.

N 9-2. Applied Psychology.*

Associate Professor McGeoch

7:40-9:30 p. m. Thursday. Room B-3, January Hall. Second semester. Credit I, XIV, 2 units. Tuition \$12.50.

A study of the application of the principles of psychology to the conditions of everyday life. Some of the topics discussed will be personal efficiency, the influencing and control of human behavior, mental health, education, religion, and business.

N 9-6. Social Psychology.

Mr. Elwood Street

7:40-9:30 p. m. Monday. Room 208, University Hall. Second semester. Credit I, IV, 2 units. Tuition \$12.50.

A study of the groups in St. Louis such as the various fraternal, civic, business, literary, philanthropic, mutual benefit, and other societies, the reasons for their existence, their history, their present nature, their relationship to the lives of those who belong to them, and their relationship to the lives of the community and of the possibilities which lie in such groups as groups and as participants in a co-ordinated program for community welfare.

N 9-9. Mental Hygiene.

Associate Professor McGeoch

7:40-9:30 p. m. Thursday. Room B-3, January Hall. First semester. Credit I, 2 units. Tuition \$12.50.

The course will deal with the nature and principles of organization of the normal mind, with such abnormalities of mind as are preventable, and with the basic principles of prevention and hygiene.

N 9-10. Contemporary Problems in Psychology.

Associate Professor McGeoch

7:40-9:30 p. m. Monday. Room 230, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

A survey of the structural, functional, purposive, and behavioristic methods of studying and interpreting human nature, with a discussion, in the light of these methods, of the experimental data bearing upon the more significant modern psychological problems. Prerequisite, N 9-1, or its equivalent.

* Courses N 9-1, 2, and 2 additional units in Psychology combined are equivalent to Psychology I in the College of Liberal Arts.

N 9-15. Industrial Psychology.

Mr. Bunch

7:40-9:30 p. m. Wednesday. Room 208, Duncker Hall. First semester. Credit XII, 2 units. Tuition \$12.50.

The course will deal with the general facts and principles involved in practical psychological work in industry. The following topics will be considered: psychological methods of vocational selection and employment; fundamental factors conditioning personal efficiency; effects of distraction, fatigue, interest; and the psychological principles of advertising.

A 9-1. Psychology, General and Educational.

Professor Swift

3:45-5:45 p. m. Wednesday. Room 109, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

Human psychology and its applications. The course will deal with the psychological basis of human behavior.

A 9-5. The Psychology of Children.

Professor Swift

3:45-5:45 p. m. Wednesday. Room 109, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

A study of the psychology of children and its application to their development and education.

PUBLIC SPEAKING**N 33-1, 2. Introductory Public Speaking.**

Mr. Scanlon

7:40-9:30 p. m. Wednesday. Room 228, University Hall. Both semesters. Credit I, XII, 4 units. Tuition \$12.50 each semester.

The purpose of this course is to develop the student's speaking ability by study of speech composition, audience psychology, and the technique of delivery, and also by actual practice in speaking. The work is designed to prepare the student to take part in group discussions and committee meetings, to talk before informal gatherings, and to address organizations.

N 33-3, 4. The Forms of Public Address.

Mr. Scanlon

7:40-9:30 p. m. Thursday. Room 228, University Hall. Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

A study of the various types of public speaking, including after-dinner speeches, speeches of introduction and farewell, eulogies, debates, forensic and deliberative speeches, and speeches for special occasions. Special emphasis will be given in class to the study, preparation, and delivery of speeches of these types, with direct reference to individual problems of students. Prerequisite, an elementary course in Public Speaking.

N 11-31, 32. Oral Study of Literature.

Miss Grace

For detailed description of course, see under English.

N 11-33, 34. The Study of Expressive Speech.

Mrs. Eisloeffel

For detailed description of course, see under English.

- N 11-35, 36. Recreational Dramatics.** Miss Grace
Not given in 1927-28. Will be offered in 1928-29.
- N 11-39, 40. The Art of Story Telling.** Mrs. Clifford
For detailed description of course, see under English.
- A 11-39, 40. The Art of Story Telling.** Mrs. Clifford
For detailed description of course, see under English.
- N 70-15. Parliamentary Law.** Professor Conant
For hours, credit, and detailed description of course, see under Law.

RADIO COMMUNICATION

- N 52-19, 20. Radio Communication.** Assistant Professor Glasgow
For hours and detailed description, see Electrical Engineering.

RUSSIAN

- N 28-1, 2. Russian.** Mr. Baron
7:40-9:30 p. m. Wednesday. Room 201, University Hall.
Both semesters. Credit XII, 4 units. Tuition \$12.50 each semester.

A practical course open to all who are interested in the Russian language and literature. The course will include elementary grammar, reading of easy Russian stories, and oral work. The study of Russian classics will follow.

SALESMANSHIP

For Certificate in Sales Management, see page 27.

- N 47-1. Principles of Salesmanship.** Mr. Stevens
For hours, credit, and detailed description, see under Business.
- N 47-2. Principles of Sales Management.** Mr. Stevens
For hours, credit, and detailed description, see under Business.

SECRETARIAL STUDIES

For description of two-year curriculum leading to Certificate in Secretarial Studies, see page 28.

For general statement of the courses listed below, see under the various department headings.

First Year: English, N 11-1, 2; Economics, N 7-2A, B; Business Law, N 7-41, 42; Psychology, N 9-2.

Second Year: Economic Geography, N 13-21, 22; Office Management, N 7-54; Office Technique and Practice, N 7-20; Study of Expressive Speech, N 11-33, 34; Advanced English, N 11-3, 4, or Business Letters, N 11-E, F.

Students who have not completed the required English of high school should elect a course in Fundamentals of English, N 11-B1, 2.

SOCIOLOGY AND SOCIAL WORK

Students in the Extension Division who have completed some college courses for credit may be permitted to take Extension courses in Accounting, Advertising, and Social Work for University credit, provided they secure in advance written approval of the Dean of the School of Business and Public Administration.

S 26-1. Introduction to Sociology.

Professor Bodenhafer

9:30 a. m. Saturday. Credit I, 2 units. Tuition \$12.50.

A study of the principles of sociology; the essentials of the sociological movement. Constant reference to actual social institutions and maladjustments will furnish concrete material for analysis and illustration.

N 26-1, 2. Introduction to Sociology.

Professor Bodenhafer

7:40-9:30 p. m. Thursday. Room 209, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

A study of the principles of sociology; the essentials of the sociological movement. Constant reference to actual social institutions and maladjustments will furnish concrete material for analysis and illustration.

N 26-5, 6. The Family as a Social and Educational Institution.

Professor Bodenhafer

7:40-9:30 p. m. Tuesday. Room 220, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

A study of the origin of the family and its various forms; changes taking place in present forms; its function as an institution of social control; the pathological family and its treatment.

N 31-4. Playgrounds and Recreational Activities.

Mr. Eilers, Mr. Abeken

7:30-10:15 p. m. Thursday. Second semester. Francis Gymnasium. Credit XII, 2 units. Tuition \$12.50.

This course includes problems in playground construction, equipment and administration, together with programs for various types of playgrounds, and the teaching of playground games and other physical activities.

An advanced course in Playgrounds and Recreational Activities is also planned for the second semester. Further details will be announced in the catalogue to be issued about January 1, 1928.

A 31-10. Coaching Course in Athletics for Women.

Assistant Professor Bennett

4:00-5:00 p. m. Wednesday. Women's Gymnasium. Second semester. Credit XII, 1 unit. Tuition \$10.00.

Theory and practice of coaching, refereeing and umpiring of field hockey, soccer, basket-ball, volley-ball, baseball, track, and field sports. The course

will include games of lower organization suitable for junior and senior high school girls; ideals and standards in athletics for women. Open to University students and others preparing to teach Physical Education.

A 31-12. Play and Games.

Assistant Professor Bennett

4:00-5:00 p. m. Monday. Women's Gymnasium. Second semester. Credit XII, 1 unit. Tuition \$10.00.

Dramatic games and games of skill for grades from kindergarten through eighth grade; theories and psychology underlying play and recreation. This course is primarily designed to meet the needs of occupational therapists, but would be equally valuable to playground and settlement workers or elementary grade teachers.

N 26-7. The Socially Inadequate.

Professor Bruno

7:40-9:30 p. m. Monday. Room 201, University Hall. First semester. Credit I, IV, 2 units. Tuition \$12.50.

This course deals with the description of the concept of social fitness, its nature, the relation of social stress to social fitness; personality and social fitness; the contribution of psychology, biology and economics to the social understanding of personality; the reaction of fitness to changing social forces; the industrial revolution and social fitness; classification of the socially inadequate; the response of society to each class; the change from automatic response to intelligent treatment; a history of the treatment of the inadequate with special reference to the dependent; history and forms of institutional and non-institutional relief; the development of private charity; origin and development of the settlement and charity organization movements; social case work. For credit, prerequisite, Sociology 1 or six units in Economics, Psychology, and Zoölogy.

N 26-13. Elementary Social Case Work.

Mr. Steger

7:40-9:30 p. m. Wednesday. First semester. Room 104, University Hall. Credit I, IV, 2 units. Tuition \$12.50.

This course is concerned with the problem of social maladjustment with particular emphasis on the study of the individual or family to be helped. It takes into account the forces within and without the individual and family that, on the one hand, are responsible in part or wholly for the trouble discovered and, on the other hand, may be properly directed to deal with the difficulty. Prerequisite, for credit, N 26-7.

N 26-14. Advanced Social Case Work.

Professor Bruno

7:40-9:30 p. m. Monday. Room 201, University Hall. Second and semester. Credit IV, 2 units. Tuition \$12.50.

The application of the social case method to the treatment of personality problems in the socially inadequate; this is done by a critical study of the social and physical forces affecting definite cases and an evaluation of the nature of treatment given. During the course illustrative cases from each field of social case work are studied in order that the elements common to each may be defined and the differential methods of approach and processes identified. These fields will include at least criminology, probation, child welfare, medical social work, visiting teaching, case work with the insane and feeble-minded and family case work. This course is taught by the case and seminar methods. For credit, prerequisite, N 26-13.

N 26-8. Hospital Social Work.

Miss Baker

7:40-9:30 p. m. Tuesday. Medical School, Scott and Euclid Avenues.* Second semester. Credit IV, 2 units. Tuition \$15.00.

This course is intended for general case workers as well as for those engaged in medical social work. It does not give training for medical social work, but plans to furnish data on which general and medical social work is built. The conference method will be followed and discussion based on cases illustrating some social problems underlying certain medical diagnoses.

N 26-15. Child Welfare.

Professor Bruno

7:40-9:30 p. m. Wednesday. Room 204, University Hall. First semester. Credit IV, 2 units. Tuition \$15.00.

This course is intended to give an understanding of the general factors which enter into child welfare, the history of the child welfare movements, institutional and non-institutional agencies available for child welfare treatment, and some discussion of the special techniques in this field. This course is intended for the general case worker rather than for the child welfare specialist. This course will not be given if the registration is under twelve. Prerequisite, for credit, N 26-13.

N 26-24. Legal Protection of the Child.

Professor Bruno

7:40-9:30 p. m. Wednesday. Room 204, University Hall. Second semester. Credit IV, 2 units. Tuition \$15.00.

This course is designed for the general case worker as well as the specialist in the child welfare field, and consists of a review of those legal methods which society has devised to protect its children against neglect, dependency and delinquency. It will deal primarily with the juvenile court, probation, illegitimacy, adoption, and the relationship between the private agency and the legal authorities in pursuit of the objects of child welfare. This course will not be given if the registration is under twelve. Prerequisite, for credit, N 26-15.

N 9-6. Social Psychology.

Mr. Elwood Street

7:40-9:30 p. m. Monday. Room 208, University Hall. Second semester. Credit I, IV, 2 units. Tuition \$12.50.

A study of the groups in St. Louis such as the various fraternal, civic, business, literary, philanthropic, mutual benefit, and other societies, the reasons for their existence, their history, their present nature, their relationship to the lives of those who belong to them, and the relationship to the lives of the community and of the possibilities which lie in such groups as groups and as participants in a co-ordinated program for community welfare.

N 34-1. Bacteriology in Relation to Personal and Public Health.

Dr. Kendall

8:00 p. m. Friday. Room 100, Cupples Hall I. First semester. Tuition \$15.00.

For description of the course, see under Bacteriology.

*Students should register for this course in the office of the Division of University Extension.

SPANISH

Students desiring to complete the equivalent of Spanish 1 in the College of Liberal Arts may do so by taking N 27-1, 2, 3.

N 27-1, 2. Spanish for Beginners.

Professor Ray

7:40-9:30 p. m. Thursday. Room 100, University Hall. Both semesters. Credit I, 4 units. Tuition \$12.50 each semester.

Open to all who wish to acquire a knowledge of Spanish. The course will be practical and suited to the needs of those interested in the language of Spain and Spanish America.

N 27-1A. Spanish for Beginners.

Assistant Professor Tobar

7:40-9:30 p. m. Thursday. Room 206, University Hall. Second semester. Credit I, 2 units. Tuition \$15.00.

A course in beginning Spanish adapted to the needs of those interested in the language of Spain and Spanish America. Students entering this course may continue in the Summer Session and be eligible for N 27-3, 4 in the fall.

N 27-3, 4. Continuation Spanish.

Professor Ray

7:40-9:30 p. m. Monday. Room 100, Cupples Hall I. Both semesters. Credit I, 4 units. Tuition \$15.00 each semester.

This course is a continuation of N 27-1, 2, with special emphasis on composition and conversation and the reading of modern Spanish writers.

N 27-1, 2, 3 taken together are the equivalent of Spanish 1 in the College of Liberal Arts.

Open to students who present N 27-1, 2. Students who have had one year or more of Spanish in high school may be admitted at the discretion of the instructor.

N 27-5, 6. Spanish Commercial Correspondence.

Assistant Professor Tobar

7:40-9:30 p. m. Wednesday. Room 209, Cupples Hall I. Both semesters. Credit XII, 4 units. Tuition \$15.00 each semester.

An introduction to epistolary style. Practice in writing letters in Spanish on ordinary business subjects. Prerequisite, N 27-1, 2, or its equivalent.

TRIGONOMETRY

(See under Mathematics.)

ZOÖLOGY

N 29-1, 2. General Biology.

Assistant Professor Miller

7:15-10:15 p. m. Monday. Rebstock Hall. Both semesters. Credit I, 3 units. Tuition \$15.00 each semester.*

A lecture and laboratory course in which the fundamental facts and principles of animal life will be studied. The laboratory work will be based on the study of typical invertebrates from Amoeba through the Arthropods.

* In addition a deposit of \$4.00 is required to cover materials used in the laboratory.

This course, together with N 29-3, 4, may be applied toward the completion of a pre-medical course, and together with N 29-9, 10 fulfill the requirements in biology for entrance to the Washington University School of Medicine.

N 29-1, 2 and N 29-3, 4 may be taken in alternate years and presented for six units of credit in the College of Liberal Arts.

N 29-3, 4. General Biology.

Assistant Professor Miller

Not given in 1927-28. Will be offered in 1928-29.

N 29-5, 6. Comparative Embryology of Vertebrates.

Assistant Professor Miller

7:15-10:15 p. m. Monday. Rebstock Hall. Both semesters.

Credit I, 3 units. Tuition \$15.00 each semester.*

A laboratory course in comparative vertebrate embryology based principally on the study of the chick and pig. This course fulfills the requirements in this subject for entrance to the School of Medicine. McEwen's *A Text-book of Vertebrate Embryology* and Arey's *Developmental Anatomy* will be used as texts.

N 29-7. The Theory of Evolution.

Miss Heys

7:40-9:30 p. m. Thursday. Room 229, University Hall. First semester. Credit I, 2 units. Tuition \$12.50.

A lecture and discussion course on the evolutionary theories of Darwin, Lamarck, deVries, and others. The history of the evolutionary idea, the evidence upon which the doctrine of evolution rests, the evolution of man, and the future of evolution will also be included.

N 29-8. Heredity and Eugenics.

Professor Hanson

7:40-9:30 p. m. Thursday. Room 229, University Hall. Second semester. Credit I, 2 units. Tuition \$12.50.

The laws of human inheritance and experimental evidence upon which they are based constitute the major part of the course. The eugenics program and the possibility of race improvement is also considered.

S 29-11. Heredity and Evolution.

Professor Hanson and Miss Heys

10:30 a. m. Saturday. Both semesters. Credit I, 2 units. Tuition \$12.50.

Subject-matter is that which a well informed person should know about the theory of evolution and the laws of heredity. Presented in a non-technical manner, and does not require previous work in science. Philosophical and experimental proofs of evolution. An examination of the Mendelian theory of heredity, human inheritance, and the eugenics program.

GRADUATE COURSES

(Offered in the late afternoon.)

The attention of students who already hold college degrees is called to courses given in the School of Graduate Studies for

* In addition a deposit of \$4.00 is required to cover materials used in the laboratory.

those who are candidates for advanced degrees. These courses are given in the late afternoon and hence are available for teachers who wish to continue their education in their special fields. The courses are offered in practically every department of the College, and also in the School of Business and Public Administration. The requirements for admission, as well as descriptions of the courses themselves, may be had by applying to George W. Lamke, Registrar of the University. A complete catalogue will be sent upon request.

SATURDAY COURSES

The following is a list of courses offered on Saturday mornings. The full descriptions will be found in each case on the page of this announcement as indicated. For the rooms in which the courses are held, students should consult the bulletin board of the Extension Division, Room 126, University Hall, on the first morning of class, October 1, 1927.

9:30 A. M.

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|----------|--|----------------------------|
| S 9-7. | Human Behavior and Its Psychology. | Professor Swift |
| | See page 83. | |
| S 11-23. | Contemporary American Poetry. | Professor Jones |
| | See page 64. | |
| S 11-40. | History of Books and Libraries. | Mr. McMillen |
| | See page 78. | |
| S 12-1. | Beginners' French. | Assistant Professor Faure |
| | See page 66. | |
| S 12-12. | Modern French Drama. | Professor Douay |
| | See page 67. | |
| S 11-21. | Contemporary English Drama. | |
| | See page 64. | Associate Professor Parks |
| S 13-2A. | General Geography (Climatological). | |
| | See page 67. | Associate Professor Thomas |
| S 16-31. | Outstanding Personalities of Modern World History. | |
| | See page 70. | Professor Usher |
| S 25-7. | Problems of American Citizenship. | Professor Loeb |
| | See page 83. | |
| S 26-1. | Introduction to Sociology. | Professor Bodenhafer |
| | See page 87. | |

10:30 A. M.

- S 9-5. Psychology of Childhood and Youth. Professor Swift
See page 83.
- S 11-27. Shakespeare—Comedy, History, and Tragedy.
See page 64. Professor Mackenzie
- S 13-2B. General Geography (Human).
See page 68. Associate Professor Thomas
- S 16-11. First Four Christian Centuries. Professor McFayden
See page 70.
- S 17-3. History of Painting. Mr. Wuerpel
See page 39.
- S 29-11. Heredity and Evolution.
See page 91. Professor Hanson and Miss Heys
- S 32-7. The Bible as Literature. Dr. Karl M. Block
See page 78.
- S 32-9. Greek Drama (in translation). Professor Duncan
See page 78.

11:30 A. M.

- S 12-3. Continuation French. Assistant Professor Faure
See page 66.



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